Croonian Lectures

ON THE

INFLUENCE OF THE CIRCULATION ON THE NERVOUS SYSTEM.

Delivered before the Royal College of Physicians of London,

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LECTURE III.—PART II.

THE consideration of fainting, epilepsy, and the fatal coma of cerebral exhaustion has confined our attention so far to the influence of the circulation upon the nervous centres. But there are other bearings of the influence of the circulation on the action of the nerves which are worthy of some notice, and the chief of these is the condition known as angina pectoris. Perhaps no complaint has attracted more attention than this singular and painful affection, and perhaps the attention devoted to a complaint has never given rise to so large a record of somewhat incongruous anatomical lesions as causes of the disorder. To select among these in the hope of finding a proximate cause of the angina is not a promising task; for one might well say that every kind of disease of or about the heart has been found as cause of angina pectoris; so that pathologically angina pectoris had become a rather wearisome topic, when new interest in it arose through the clinical observation of its connexion with a certain state of the circulation. No medical discovery in recent years has received a more marked and more just attention than that made by Dr. Lauder Brunton as to the power of nitrite of amyl to relieve angina pectoris; indeed, it stands among a very few instances in which the physiology of a disease has enabled a trained and acute scientific mind to infer successfully the remedial powers of a physiological agent. It is well known that Dr. Lauder Brunton observed that in cases of angina pectoris the tension in the arteries is very high, and that nitrite of amyl, by relaxing the small arteries, reduces the tension and relieves the suffering. But whilst the benefit thus obtained in some cases of angina pectoris is most satisfactory, in other cases it is so utterly awanting that there must be some differences in the cause of the pain corresponding to so great a difference in the effects of the remedy. I will now ask your attention to some facts which may throw light on this difference. I will send round tracings from the pulse of a man who is in Guy's Hospital for angina pectoris, and who is always relieved by the amyl. Afterwards I will send round tracings from the pulse of another man who died of angina pectoris, which never was relieved in the slightest degree by amyl, but in whose case there is some good reason to believe the amyl acted injuriously. The man who obtained relief is in No. 10, Philip ward. He is sixty years of age, and has done no work for eighteen months on account of pain in the chest, which is not constant, yet is present for the most part as a moderate pain. But this pain seizes him at times in a much more severe manner; it then has all the characters of angina pectoris—an excruciating sense of pain and compression of the chest extending through the left shoulder, and down to the fingers of the left hand. This seizure of great pain generally occurs when he is walking. When he has persevered in spite of the pain, he has several times fallen, and been convulsed. Two such convulsive attacks observed in the hospital were seen to be epileptic. (I may remark, in passing, that the epileptic convulsions of this man are more nearly certainly due to anæmia of the brain than in any case I have met with. But the same association of angina with epilepsy has been observed before.) Examination of the heart and great vessels shows evidence of obstruction of the aortic orifice. The man never had rheumatic fever, so that the obstruction doubtless arises from disease of the aortic wall invading the valves.

Dr. Galabin has been kind enough to take these tracings during an attack of the angina, and during the relief which the patient was obtaining from nitrite of amyl. When the paroxysm is at its height the traces show that the heart is labouring against high pressure.

FIG. 1.

Four ounces. Ordinary pulse of G. B——.

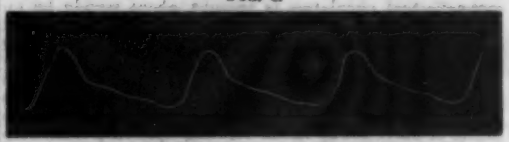
FIG. 2.

Two ounces. During attack of pain.

FIG. 3.

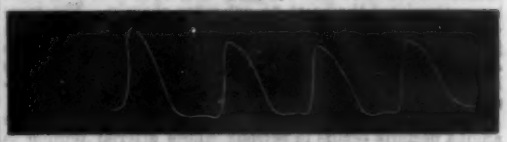
Three ounces. During attack of pain.

FIG. 4.



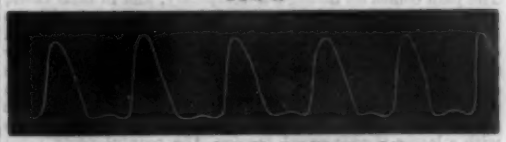
Four ounces and a half. During attack of pain.

FIG. 5.



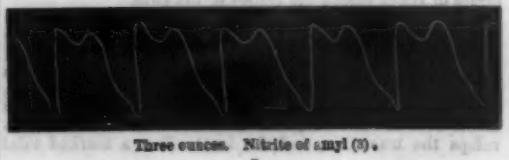
Three ounces. Nitrite of amyl just commenced.

FIG. 6.



Three ounces and a half. Nitrite of amyl (2).

FIG. 7.



Three ounces. Nitrite of amyl (3).

FIG. 8.

Three ounces. Nitrite of amyl. Pain relieved.

FIG. 9.

Four ounces and a half. Nitrite of amyl. Pain still relieved. Effect passing off.

FIG. 10.

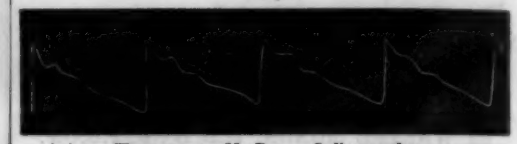
Three ounces and a half. Nitrite of amyl. Effect going off.

This is to be inferred because the pulse bears four ounces and a half pressure, and also because we find a slanting upstroke, a round top, and almost no dicrotic wave. As soon as the amyl begins to act and the pain to be relieved, these signs of "high tension" begin to rapidly pass off, and the pulse trace returns to the condition it usually shows in this man. The relief of the pain goes with evidence of more effectual circulation. But there is some doubt whether this more effectual circulation is brought about merely by reduction of the arterial tension, for the pulse in the natural state bore a rather higher pressure than it would bear during the angina, so that the actual tension appeared rather lower in the paroxysm, and the state of the artery during the paroxysm would be better ascribed to the heart's failing to keep it up to its hard work. The first trace after the nitrite of amyl shows rather slanting upstroke, then deep dip, but slight dicrotic rise. Next trace shows sharper upstroke and more dicrotism. It looks as if the drug first relaxed the arteries and reduced tension, and then a little later stimulated the heart to act more sharply. The trace with the effect of nitrite of amyl going off after the paroxysm is very like the ordinary trace without the drug. It may be observed that the pulse is slower, though the tension is lessened in the attack, so that the cardiac regulating apparatus does not act quite normally.

From this observation it would appear that the pain in angina pectoris occurs in persons whose arterial tension is high. But that the attack of angina does not coincide with an increase of tension; rather, indeed, with a decrease of it. The pain comes on through a temporary, and in fatal cases, a permanent failure of the power of the heart to cope with the high tension in the arteries. And the relief of the pain by amyl comes partly through the nitrite relaxing tension and partly through its stimulating the heart. In short, angina pectoris arises in this man whilst the heart is labouring in vain against an ordinary high tension—that is, through relative failure of the heart against high tension, and as pain occurs with a lower than normal tension, the painful parts must at the time have increased sensibility to such tension. In other words, we must recognise state of nerve as well as strain of vessel among the causes of the pain.

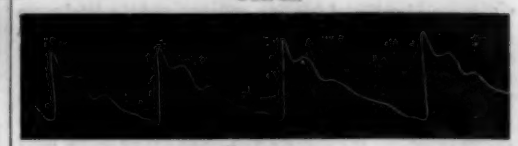
Now my second case, in which amyl did not in the slightest degree relieve the excruciating and overpowering suffering, shows in the pulse trace a very different state of affairs. The pulse in its ordinary condition has characters which appear like those of slightly higher tension than normal—about the degree of increase of tension that one meets with in chlorotic girls. A pressure of four ounces develops the trace best, and the trace offers a marked tidal wave and a slight dicrotic wave. But a pressure of five ounces flattened, and a little more crushed the pulse.

FIG. 11.



Three ounces. Mr. B——. Ordinary pulse.

FIG. 12.



Four ounces.

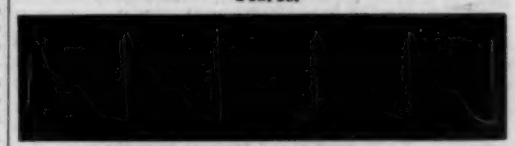
FIG. 13.

Five ounces.

FIG. 14.

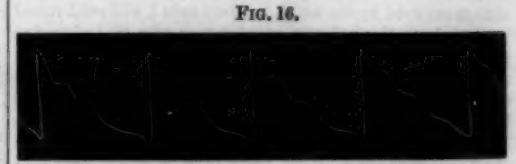
Five ounces. After exercise. Pain felt slightly.

FIG. 15.



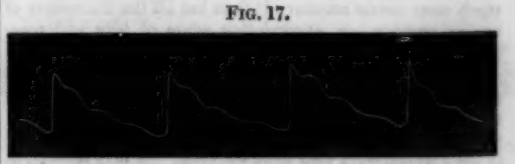
Three ounces and a half. Nitrite of amyl.

FIG. 16.



Four ounces and a half. Nitrite of amyl. Effect passing off.

FIG. 17.



Five ounces. Twenty minutes after nitrite of amyl.

These traces were taken by an authority whose skill in using the sphygmograph and ability in interpreting its writing are I had almost said unequalled. Dr. Galabin, who took these tracings, ascribes the condition of the pulse

rather to inelastic arteries than to high tension, concluding this to be the case on account of the sudden crushing of the pulse by a moderate pressure. Now, when the gentleman whose pulse furnished these traces used some effort and produced the pains of which he complained, and when Dr. Galabin took a pulse-trace as speedily as possible, and whilst yet some of the pain remained, it was thereupon found that the pulse showed lower tension than in its natural condition; and when nitrite of amyl was at once administered there was scarcely any effect at all produced by it upon the pulse, hardly any dicrotism appeared, although there was a slight diminution in breadth and increase of height of the tidal wave, and the amyl produced no relief whatever. Shall I be excused for giving full particulars of this case, important as it is from the completeness with which the conditions of it during life and after death were allowed to be observed? The history is as follows:—Mr. B——, civil engineer, forty-two years old, a well-built, healthy-looking man, of younger appearance than his stated age, said that he had been ten years in India. When there had nothing beyond a very slight sunstroke, and "inflammation" of the bladder of a few days' duration, which, however, he said rather brought him down in the way of nerve-power. He got well on the way home, and has been well ever since, until a month ago when going up a hill he suddenly felt a pain which stopped him; the pain went across his chest at the level of the heart, and up the breast-bone, and down the left arm into the fingers. When he persevered in the attempts to walk the pain went up his neck to his jawbone, and seemed to fix his jaws; when he desisted from the effort his pain soon ceased. But since the day when he was taken he finds himself unable to go up a hill without a recurrence of the pain, and latterly it has been more easily brought on, and, in fact, stops him whenever he goes walking—stops him in the most absolute way. The pain is not accompanied by palpitation or any sense of effort of the heart, or fault of the heart's action, that he is conscious of; he ascribes the pain to his liver. There is no tendency to sickness when he perseveres in walking, or tries to do so. He praised his appetite and digestion. Up to that time he had not had a single attack that was not caused by exertion. The possibility of such a thing had not struck him. I examined his heart very carefully, and could not detect any abnormal murmurs. The sounds themselves were rather feeble, the apex beat was scarcely palpable. These conditions were not more evident than is the case in many quite healthy persons. The temporal arteries were not visible, nor were the radial arteries either thick or tortuous. The pulse was, however, slightly visible at the right wrist. This gentleman was advised to take with him in his walks some nitrite of amyl capsules, and when pain appeared to break the capsule and use it by inhalation. Dr. Bosworth of Sutton, wrote to me Dec. 14th: "He still has the pain; he has carefully tried the nitrite of amyl capsules, but they have not the least effect either in abating the pain or preventing its recurrence." Meantime Dr. Galabin kindly took the tracings I have shown. The next I heard of Mr. B—— was on Dec. 23rd, from Mr. Ewen of Exmouth, who said that Mr. B—— had been seized there with an attack of angina whilst in bed. Again, two weeks after that he had had a cerebral attack, including aphasia, and, finally, that Mr. B—— had died suddenly. An inspection was made, and the heart and root of the lungs were sent intact to me by Mr. Ewen for examination. The specimen is here, and it very clearly shows why nitrite of amyl failed to relieve the pain and failed to produce any marked effect at all upon the sphygmographic trace. The heart is of about natural size. Its left ventricle is dilated and the wall is thin. The portion of this ventricle near the apex for about two square inches is changed to a yellow fat-like substance, looking quite unlike muscle; a lesser degree of the change in the form of fibrous degeneration extends around this part, so that but a moiety of the whole substance of the thin wall of this ventricle is free from change. Where the change is most extreme at the apex there was seated an ante-mortem polypus of clot as large as a filbert. This was burst open and its contents partially gone. Microscopic examination showed the yellow leathery substance to be altered muscular fibre. Fully one-third of the ventricle wall was thus destroyed, and the rest was thin, wasted, and flabby.

Now, in this case the symptoms were those of angina pectoris in its most characteristic form, as described by Heberden, and the symptoms were utterly unrelieved by amyl; and when we consider the facts which are beyond doubt in this case, we must see reason to conclude that high arterial tension is not the only or the necessary cause of angina pectoris, even if it be the principal cause.

For the facts are these: First, sphygmographic trace showed rather inelastic arteries than high tension. Second, exertion, which brought on the pain, lowered the tension of the pulse, as shown by the sphygmograph. Third, nitrite of amyl produced very little change in the pulse, as shown by the sphygmograph, and brought no relief at all. And, lastly, the state of the left ventricle, as found on post-mortem examination, showed such extreme wasting and degeneration that it appeared impossible that tension could have been raised by its action, and to confirm this impression an old ante-mortem clot gave evidence of weeks of a passive and stagnant state of the blood in the left ventricle. The condition of the cardiac nerves, which, no doubt, caused the angina, I will presently describe. In short, the doubt as to high tension which the pulse contributed, the nearly certain assurance that there could be no high tension which the heart contributed, and the conclusive evidence that there was no high tension to relieve which the total inefficacy of amyl contributed,—all these sum up to prove that in this case the angina, typical as it was, must have arisen from some other cause than high tension in the arteries.

Let me now show another set of tracings, taken by Dr. Galabin from the pulse of a gentleman who has angina pectoris in a most typical form. In this case the disorder has lasted about two years; some of the attacks have been so severe that recovery appeared hopeless to the medical attendant: so intense was the pain he endured and so great was the consequent prostration. But in the height of the attacks no change was noticeable in the pulse, either in rate or quality. I could not obtain tracings of this pulse during the paroxysm. The tracings taken in the interval, and which are now before you, are thus described by Dr. Galabin:—"The pulse is fully developed by a very low pressure, one ounce and a half, but bears pressures up to three ounces (about the average pressure for a youthful normal pulse) without much change; a pressure of three ounces and a half destroys its characters, as you will see, and a very little more quenches it altogether. The curve differs from that of a perfectly normal soft pulse only in the fact that the tidal (predicrotic) wave commences too early in the descent. I should think that the general conclusion is that the arterial elasticity is in very fair condition, considering the patient's age, and that there is no excess of tension, the pulse being a soft rather than a hard one."

Now, in this gentleman's case the inhalation of nitrite of amyl produced no relief whatever. Injections of morphia were the only means by which the pain could be assuaged. Here, then, we have evidence that in the intervals between the attacks the tension was low. Whilst in the attacks we can infer that there was no high tension, inasmuch as amyl proved of no service whatever; in other words, relaxation of the arteries did no good.

In the series of three cases just related we have, first: a patient with signs of aortic disease whose pulse-trace during the paroxysm gave the characters of high tension and whose pain was relieved by nitrite of amyl, thus showing that the tension was an essential factor in the attack of pain. But, at the same time, it was observed that the tension of the pulse was lower in the attack than in the patient's ordinary condition, so that some other factor than the tension brought on the attack, although lowering the tension took the attack away. Thus, even where the relief of the tension removed the attack the tension is proved to have been but one factor in the causation of the pain. In the second case slight signs of high arterial tension were present in the ordinary pulse, but it was observed that in the pain this tension was lowered, whilst nitrite of amyl was utterly useless. Here we find tension reduced in the attack, as in the first case, but it is not in this case a factor in the production of the pain; relief of tension has no effect. In the third case there is no high tension, but quite the contrary; the pulse is of low tension, and amyl is again utterly useless. In this case tension passes out of sight altogether. The general conclusion is that high arterial tension is not to be regarded as the determining cause of angina pectoris, but as one factor of pain in some cases of angina pectoris; and that whilst it is true that amyl gives relief when high tension is present, there is reason to be cautious in pressing the amyl when it fails, for by lowering tension when already low the amyl may dangerously increase the tendency to stagnation of the

blood. And there was evidence in two of the cases that tension was really lower during the pain.

Indeed, the achings which are suffered at the heart are of two distinct kinds, like the achings which are suffered in other parts, say the teeth. In either case there is a kind of ache which is more properly a tenderness of the part, so that it suffers in its ordinary service, as when a tooth cannot chew, or the heart cannot beat, without pain more or less severe. Here, in the case of the teeth, we are able to use the other side of the mouth, or, even if hard driven, to live on liquid diet, and give the tender organs a rest for their recovery. And in the case of the heart, when its work distends the aorta, and causes pain, we can take advantage of what Dr. Lauder Brunton has so well taught us, and can open the distal vessels with nitrite of amyl so as to relieve the tension.

The relief thus given lasts only for a while, and often only for a short while, and it is very desirable if possible to find means of lowering pressure permanently. If the angina pain which is relieved by amyl is caused by the pressure of a bulging aorta, there is a fair prospect of permanently lessening or removing such pain by any measures that would tend to permanently lower general arterial tension. But what means have we of permanently lowering arterial tension? Such a result is not so easily obtained as might at first be supposed. It is natural to think that if blood be drawn the tension in the vessels must be reduced with the loss of their contents. But it has been shown by experiment that this is not the case. Bleeding does not with any certainty, or to any large extent, lower the pressure in the arteries. Neither, indeed, will any attempt to suddenly alter the whole quantity of blood in the body succeed in suddenly lowering arterial tension. Yet it is certainly possible to lower vascular tension by lessening the quantity of liquid in the whole blood mass. This is shown in a rather horribly conclusive way in some experiments of Kussmaul and Tenner, in which they desired to remove the cerebrum, and then to examine the results of further sections of the cerebellum. But they found that all their normal rabbits bled to death before the ultimate conditions for their experiments could be reached. Hereupon the experimenters kept some rabbits on a dry diet of corn, &c., for two weeks, and the effect of this deprival of liquid in the food was so satisfactory, and the blood in the vessels fell to so low a tension, that such a rabbit could have its calvaria and cerebrum cut away, and its occiput and cerebellum mutilated to any desired extent, without dying too soon for Kussmaul and Tenner's purposes. Here we see the power of bleeding and dry dieting crucially contrasted, and the result is to show that the method of Valsalva for the cure of aneurism, so far as it proceeded by bleeding, did not correspond with the most hopeful line; neither, so far as it proceeded by starvation of solids, did it correspond with the most hopeful line. The experiment of Kussmaul and Tenner rather shows clearly that for reduction of blood-pressure it is not necessary to bleed, nor is it necessary to reduce solids in the diet, so far as they are truly solid, and not succulent; but that a very great degree of reduction of tension may be reached by starvation of liquids.

In the Clinical Society's Transactions, vol. iii., there is a case of angina pectoris relieved by nitrite of amyl. It is very ably and carefully reported by Dr. Lauder Brunton, and it shows well the signs of high tension in pulse-tracings taken during the pain, and also the relief of the tension as the amyl came into operation. The pulse was quickened during the attack of pain. The sphygmograph used by Dr. Brunton did not enable him to estimate the degree of pressure upon the pulse. His conclusion was that in this case the attack consisted in spasmodic contraction of some, if not all, of the small systemic, and probably of the pulmonary, vessels, causing great increase of the blood-pressure on both sides of the heart. He remarks upon the fact that with the high tension the pulse becomes quicker, thus showing a derangement of the cardiac regulating apparatus, which should cause the pulse to become slow as the pressure rises. But I believe that unless we can estimate the pressure borne by the pulse one cannot certainly conclude from the pulse-trace that the tension is positively high; all that can be said is that it is high relatively to the power of the heart. So that there may not have been unusually high tension, but rather a failure of the heart to cope with the existing tension, such as Dr. Galabin found in my case. Dr. Brunton concludes that the pain was not originally in the nerves composing the cardiac plexus, but was produced by a pressure of blood upon those of the heart and arteries, and that the pains were of a rheumatic character.

It appears, then, to be exceedingly difficult to decide what was the proximal cause of the pain in these cases; but it is a significant fact that Dr. Brunton's case which was relieved by amyl was one of aortic disease with regurgitation, and my case was also one of aortic disease; and as it was not rheumatic, it was in all probability of the nature of deforming aortitis. Indeed, I believe that it is chiefly for the relief of attacks of anginose pain in aortic disease that nitrite of amyl has come into such general use in our hospitals since Dr. Brunton's valuable discovery was made known, whereas I have been generally disappointed with amyl when there has been no sign of disease of the aorta. Cases of relief by amyl in angina in which there was no evidence of heart disease are recorded, but I do not know of any such cases which have been cleared up by post-mortem examination.

But we have seen that the cases of angina pectoris which are due to high arterial tension form only a part of the whole number, and there are other cases of angina which are more purely neuralgic and are not relieved by amyl, and these latter cases have an altogether different kind of cause. It may be that the pathological change which produces the more purely neuralgic angina is not always the same. But an example of what I have found in many cases to be a very evident cause of the pain is before me now in this specimen, which is the heart in my second case, that of Mr. B——, whose pulse showed reduced tension when under the pain, and whom amyl failed to relieve. The state of the nerve accompanying the anterior coronary artery of this heart is sufficient to account for any degree of pain. In searching for the cardiac nerves, I observed that the aorta was perfectly healthy; it was quite separable from the texture around. The cardiac nerves, in their course between the aorta and pulmonary artery, close to the origin of these vessels, were easily found; and on following them down they were quite natural in appearance, until the anterior branches came to a diseased part of the corresponding coronary artery. Now, the mouths of the coronary arteries were natural, and the anterior vessel was natural for about half an inch, then suddenly became swollen at a bifurcation so as to be thick and white. At the same spot it became impossible to separate the vessel from the tissue around so as to render visible the exterior of the artery. In fact, here dissection of the vessel could not be carried out, and the nerve could no longer be separated from the artery without tearing or cutting the vessel. At one inch from its origin the artery was quite blocked up, and full of pus-like detritus of old clot; the diseased part of the heart's wall corresponded to this part of the artery. Microscopic examination of sections of the vessel showed a good example of deforming arteritis. Whatever was the origin of this patch of inflammation in the artery, it extended to the tissue around, with the effect of causing a dense fibrous change, which involved the branch of the cardiac nerve. In short, the nerve was involved in the inflammatory decay of the artery in the same way as the branch of the dental nerve is involved in the inflammatory decay of a carious tooth.

Let me give one, perhaps, yet more striking case of neuralgic heartache. The most remarkable case of angina pectoris which I have met with occurred in a child of eleven years of age, who used to be seized with onsets of intense thoracic pain when at play. No physical signs of heart disease were found in her. In one of her seizures the child died, and on examining the heart I found the aorta in the first two inches of its length softened, and with almost gelatinous appearance, through subacute inflammation. At the point where the cardiac nerves passed between the aorta and pulmonary artery they were involved in the thickening and inflammation which surrounded the former vessel. Neither the valves nor the coronary arteries were at all involved in the disorder. But the implication of the nerve in the inflammatory disease of the vessel was most obvious, and the pain was as completely explained by the post-mortem appearances, as facial neuralgia is explained by finding an exposed branch of dental nerve. In both these cases the nerve was involved in inflammatory decay of the artery. A similar case of inflammation, including the cardiac nerves, and causing angina pectoris, is given by Lancereaux, and is figured in his Atlas of Pathological Anatomy.

From the foregoing observations it would appear clear that there are two distinct kinds of angina pectoris, one which is a result of tenderness and overstrain of the great

vessels. In this kind of pain high tension in the arteries is a factor, although a morbidly sensitive state of the nerves must at the same time be present. Such pain corresponds to pain and tenderness in the teeth during mastication, and it is lessened by whatever will lessen the strain upon the tender parts; so that amyl nitrite, or less certainly nitroglycerine, will bring welcome relief, even when it does not give entire comfort. But the relief thus afforded is apt to be temporary and often only partial. So that even in these cases we have to bring in other means, and supplement the service which the amyl renders in relieving the strain upon the vessel by such further service as morphia can render by reducing general sensitiveness. A second form of angina pectoris is a kind of neuralgic heartache, arising from actual inclusion of a cardiac nerve in the inflammatory decay of an artery, and no signs of high tension in the vessels are present. This disease corresponds with such neuralgic toothache as arises when a branch of the dental nerve is involved in inflammatory decay of a tooth. It is more paroxysmal and violent than the first form, the intervals are more free, and there are usually no signs of disease of the heart or great vessels. The means of relief are those which are found useful in the similar neuralgia of the face, and lead us first to reduce morbid sensitiveness by such improvement of tone in the general health as may be possible; second, to employ such alterative drugs as, like arsenic and quinine, have proved themselves to possess some power of controlling the tendency to neuralgic pain; and, third and chiefly, the use of sufficient quantities of morphia to afford relief in the attacks. Morphia, given in the form of subcutaneous injection, will produce the most satisfactory result in the way of temporary relief of this form of angina pectoris. But angina pectoris does not always arise from organic changes in the heart or arteries. For, like facial neuralgia, it may occur secondarily as a reflected pain whose source is at a distance. The primary disturbance which gives rise to reflex angina pectoris is usually seated in the course of the pneumogastric nerves. A very remarkable example of this occurred in the person of one of the greatest surgeons of our own or of any past time. My late friend and colleague, Mr. Hilton, was attacked three years before his death with severe angina pectoris; so severe that the cramping thoracic pain would not allow him to walk many steps, and he was obliged to have a cab to go a distance of 100 yards; this pain, after causing great suffering for several months, passed away, and then very gradually during the next two years the symptoms of cancer of the stomach developed themselves. The heart and great vessels were found post mortem to be entirely free from all morbid changes. But not only may the gastric branches of the pneumogastric thus influence the cardiac nerves and give rise to the special pains of neuralgic heartache; but, on the other hand, I have met with some remarkable cases which time will not allow me to detail, in which aortic disease has been associated with abdominal pain in the hepatic region of a neuralgic character, and in its mode of onset and conditions of relief behaving just like angina pectoris. Nor is it only the sensory fibres that thus vicariously suffer. A lady, fifty years of age, has been for three years under my observation with no other signs of organic disease than a weak heart and feeble pulse. This lady is reduced to a most sedentary mode of living by the fact that if she tries to walk but a few yards she is suddenly attacked with vomiting. Heberden, in his description of angina pectoris, mentions that some of his patients, who persevered in walking in spite of their pain, were attacked with vomiting. In this lady the vomiting appears without the preceding pain, the onset of gastric disturbance without previous nausea is as sudden and surprising to her as is the pain which seizes the chest in angina.

The largeness of the subject I chose when the College honoured me with an invitation to deliver these Lectures was not so broadly apparent to me as it is now that I have to take leave of it with so deeply felt a sense of the imperfection of the treatment it has received at my hands. I can only hope that the few points I have brought before you may contribute a little towards maintaining for the hour that interest which continuously belongs to everything affecting the brain.

In my first lecture, that part of it which spoke of the cornu of the fourth ventricle, I adduced Dr. Guy's observations as in support of the suggestion I made with respect to the function of the choroid plexus in the cornu. I inadvertently reversed the bearing of a part of his results, and they were thus made to appear more favourable to my suggestion than they really are. I did not say that the choroid plexuses of the fourth ventricle are overlooked in our anatomical works, but that the occupation of the cornu by the choroid plexus is not mentioned.

Gulstonian Lectures
ON
ANÆMIA.

Delivered before the Royal College of Physicians,

BY SIDNEY COUPLAND, M.D., F.R.C.P.,
PHYSICIAN TO THE MIDDLESEX HOSPITAL.

LECTURE III.—PART II.

Fatty Degeneration: The most important Result of Anæmia—of Heart—of other Muscles—of Vessels—of Viscera—Liability to Hæmorrhages explained by Vascular Deterioration.—Treatment of Anæmia: Hygienic — Dietetic — Medicinal—Transfusion.

THE frequency with which fatty metamorphosis of the tissues and an anæmic state of the blood are associated is such that the connexion between the two must be an intimate one. Whenever a tissue is deprived of nutriment it undergoes this change, its albuminous particles becoming converted into fatty granules and oil-globules. It is the simplest instance of retrograde metamorphosis of the tissues, and occurs as a physiological event in their natural decay. Pathologically, although no tissue is exempt from this form of degeneration, the muscles are particularly prone to it, and this proneness is no doubt due to the muscles being so actively employed in the metabolic processes of the body. Deprived of their due supply of oxygen, their protoplasmic elements are unable to go through their normal changes, and, instead of complex stable products, they break up into fatty molecules. Such a conversion may be effected with remarkable rapidity, witness the widespread metamorphosis in acute poisoning by phosphorus, which may be established within a day or two,[1] and in such case I believe the change is effected by the deprivation of oxygen, and the disturbance to the normal tissue metamorphosis thereby established. More often there is reason to believe that the process is of slower duration, but important as it is to determine this question, I do not think it possible to do so yet. There may be links still wanting in the chain of knowledge, but it is to my mind one of the most reasonable facts in pathology that whenever the blood is impoverished the tissues must suffer degeneration, and it is important not to disregard the fact in the treatment of anæmia. The muscle of the heart—which of all muscles requires a constant and definite supply of oxygen for its renewal, its unceasing action denoting continual metamorphosis—is particularly liable to suffer. Nourished probably in two ways, by the blood circulating through its cavities and by the arterial supply to its walls, is there not reason enough why this muscular organ should be especially singled out to undergo this metamorphosis when the blood is deficient in oxygen-bearing elements? Hence it is that the occurrence of true fatty degeneration of the heart is recognised as the most constant and most striking effect of a grave and prolonged anæmia. Out of seventy-six cases of fatal idiopathic anæmia where post-mortem examinations were made, in sixty-four it is expressly stated that the heart was thus degenerate, sometimes extremely so; in six other cases no mention is made of its condition, and in only six is it said to have been healthy. This degeneration of the heart is, in fact, as I pointed out in my last lecture, the only constant anatomical feature of cases of idiopathic pernicious anæmia. It was originally pointed out by Addison, and the observation was abundantly confirmed by Wilks, and its occurrence has been noted, as above seen, with few exceptions in every case of fatal anæmia since attention was drawn to it. Wagner, in his

[1] See case recorded by myself in THE LANCET, vol. ii. 1870, p. 800.

treatise on Fatty Degeneration of the Heart, attributes some cases to anæmia, and Ponfick described in detail the "anæmic form" of fatty heart. There is, then, general concurrence of opinion upon the association, and it is probable that it has wider bearings than we generally admit. The recognition of this sequence as a pathological fact may possibly in time throw light upon cases of cardiac degeneration at present thought to be idiopathic—cases, that is, which do not arise secondarily to inflammation of the pericardium and myocardium, from disease of the coronary arteries, from alcoholism or from fever, or, as a final event, in long-standing valvular disease. It is hardly conceivable that an impoverished state of blood should follow upon an enfeebled fatty heart; at any rate, such an impoverishment as to fall under the head of anæmia. It is far more probable that the degeneration is the result of the blood change rather than the cause of it. There are many cases where the degenerative powers have been apparently of rapid evolution, cases of acute anæmia following loss of blood. As an example of this I might instance the case related in my last lecture (No. 6), where profuse and uncontrollable uterine hæmorrhage supervened in a chlorotic subject, and where the heart was found to be most extensively degenerated. Here is another case where one factor at least in the production of the degeneration was a similar loss of blood. A woman, aged forty-six, was admitted under my care into the Middlesex Hospital on Oct. 23rd, 1880, suffering from general dropsy dependent upon a dilated and degenerate heart. She had approached the climacteric, having previously passed a healthy life, but for the past five years the catamenia had been most profuse; she called it "flooding." Three months before admission the menses apparently ceased; to reappear in great excess during the past fortnight. Œdema of the legs began about one month before, followed by swelling of the belly; but prior to this she had been getting pale, and suffering from palpitation and breathlessness on exertion. She was somewhat obese, very anæmic, and the conjunctivæ were yellow-tinged. Accounting for the dropsy, there was evident dilatation of the heart, with epigastric impulse, a soft systolic apex bruit, and irregular intermittent pulsation. She suffered from œdema of the lungs, and treatment had no effect in reducing the dropsy or removing the anæmia, which even grew more intense, although no menorrhagia occurred whilst she was in the hospital. After her death, which took place on November 12th, the heart was not only overladen with fat, but its muscular walls were flabby and extremely degenerate. The kidneys were also fattily degenerated. Here, then, was a case (and it is one of a class) where the cardiac degeneration was the most pronounced feature and was the immediate cause of death, but where it seemed probably related to, if not wholly dependent upon, the menorrhagic attacks to which she had been subject. Dr. Green has recorded a striking instance of the effect of profuse menstrual loss in inducing fatty degeneration, in the eighth volume of the Clinical Society's Transactions. The case is that of an anæmic ill-nourished girl, the subject of mitral stenosis. The occurrence of menstruation, after an interval of six weeks, and the profuseness of the flux (possibly made so profuse by the presence of the mitral disease) so lowered the standard of the blood that within five days she died in a state of exhaustion. In addition to the mitral disease and an abnormally narrow aorta, the muscular tissue of the heart was found to be in an advanced state of metamorphosis, and similar regressive changes were met with in some of the voluntary muscles. Similar examples might be quoted. The degeneration of voluntary muscles observed in Dr. Green's case is very interesting, and it is probable that if such muscles were more frequently examined in anæmia they would be found occasionally affected.

One may, without transgressing the rightful limits of pathological speculation, attribute the origin of the areas of fatty degeneration observed by Virchow in the lining membrane of the aorta in cases of chlorosis to the same cause—the impoverishment of the blood. The well-known experiments of Cohnheim bearing upon the embolic process demonstrated the fact that the integrity of the walls of the blood-vessels depends upon their being filled with a due amount of healthy blood. The tendency to capillary hæmorrhages—purpuric spots, ecchymoses beneath serous membranes, and sometimes parenchymatous hæmorrhages—in pernicious anæmia is, I believe, due in great measure to such vascular deterioration. It has not always been found, however, in such cases; but I may say that the only opportunity of which I availed myself of examining the retinal vessels in a case of this disease where there were marked hæmorrhagic foci in the retina, enabled me to distinguish clearly that the endothelial cells of the small arteries, and those of the capillary walls themselves, were studded with minute oil-globules. That such ecchymoses are due to the condition of the blood only, is far less probable than that they are caused by actual damage to the vessel-walls through which the altered blood circulates; and when there is evidence of such vascular deterioration this explanation seems to be all sufficient. This, however, like that of the condition of the voluntary muscles, is a point which calls for further investigation.

Fatty degenerations of the gastric and intestinal glands, of the liver and of the kidneys, are met with in a certain number of cases of profound and fatal anæmia; but how far and in what way, whether as results or as causes of the anæmia, it does not seem possible yet to say. Certainly not one of these organs may be so affected; they are not so often found degenerate as the heart-muscle. The gastric glands are not often examined, and their derangement is possibly a factor in the production of the anæmia; whilst the intestinal and hepatic cells are liable to undergo a physiological fatty infiltration which must not be confounded with a morbid state. In one of the cases previously related (Case 5), the liver though certainly fatty was very remarkable, the cells affected being those nearest to the centre of the lobule, and not at the periphery, as in the ordinary fatty infiltration process. Some of the most advanced cases of visceral fatty degeneration which I have seen have occurred in cancerous subjects, especially uterine cancer; which more or less rapidly progresses in ulceration, impoverishing the blood more and more as it advances. Such instances of course differ from cases of phthisis where there is pyrexia and direct respiratory disorder to aid in the production of the fatty change.

I am not, however, now concerned with the subject of fatty degeneration as a whole, but only in relation to anæmia. We have, I think, ample evidence that there is a link between the blood condition and the tissue change, and everything points to the latter being the result of the former. At the same time we must not lose sight of the other alternative to which I have above alluded, for I do not think it is absolutely capable of disproof, at any rate in every case. I refer to the view that the anæmic condition is itself dependent upon what may be called an "inertia" on the part of the tissues, whereby they do not perform what is required of them, and failing to go through their normal metamorphosis pass into the fatty regressive state. In such a case there would be less demand for oxygen, and this would react upon the supply, and fewer corpuscles and hæmoglobin would be formed. Such an hypothesis requires, however, far more than the former, which has also received support from experimentation, the effect of continued loss of blood being found to produce fatty metamorphosis.

The treatment of anæmia, apart from the removal of its cause, when this can be ascertained, may be summed up under the head of hygienic, dietetic, and medicinal measures. On the first and second of these I need hardly dwell; their importance is self-evident. The necessity for rest alternated with moderate exercise, graduated according to the severity of the anæmia, is important. Even slight exercise is irksome and harmful until the blood is sufficiently reinforced to permit of it, and absolute rest is called for at first. The influence of air and light is of as much value in aiding restoration from the anæmic condition as their deprivation is powerful in inducing this state, and such hygienic measures as bathing act by promoting tissue metabolism. A valuable contribution to the treatment of anæmia by these means has lately been made by Drs. M. P. Jacobi and White[2] in what is a scientific exposition of the effects produced by those who practise hydrotherapy. These writers relate cases, accompanied by analyses of the urine, where wet packs and massage were employed, in addition to ferruginous medication. The effect of such treatment was to cause increased elimination of urea, to improve appetite, and to procure sleep; and the explanation afforded is that the treatment, acting through the nervous system and the circulation, promoted tissue change, and increased the capacity of the tissues and the blood for oxygen, the passive exercise of the muscles aiding also, by quickening the circulation, in the removal of the products of nitrogenous waste.

In diet the indication is to allow meat in considerable

[2] Archives of Medicine, August and October, 1880.

quantity as soon as the digestive organs are capable of the work imposed on them; but where, as so often happens, the digestive power is at a minimum, then recourse may be had to meat essences, peptonised foods, and (as an extreme measure) nutrient enemata. There is frequently a great distaste for nitrogenous food among these subjects, many of whom owe their anæmia in large measure to their preference for a diet of non-nitrogenous materials, and it follows, therefore, that chief attention should be paid to this point, especially as the organs of digestion are more or less deranged by the anæmic state. As I have before pointed out, digestive derangements both induce and are induced by anæmia, and by dealing with them we often strike at the root of the condition, which, however, requires also measures directed specially to it. These measures comprise the administration of certain drugs, which are comprised under the term "hæmatinic." Of these I pass now to speak briefly.

Of all remedies iron maintains, as it always has maintained, a pre-eminence in the treatment of anæmia. It seems to act directly upon the blood-forming viscera, and probably also upon the digestive organs—i.e., on the gastro-intestinal tract. No wholly satisfactory explanation has, I believe, been given of the mode of action of the iron in either of these directions, or of the reason why the best results in the most marked cases of chlorosis are obtained by the administration of heroic doses far in excess of what is actually required in blood formation, and much more also than is actually absorbed. Trousseau called iron as much a specific in chlorosis as mercury was in syphilis, and there was truth in the remark, although we may not know in what its specific action precisely consists. The application of methods of blood measurement enable us to estimate the rapidity with which iron hastens recovery from the anæmic condition. Sometimes it appears to act, at any rate in the first instance, by causing an increase in the number of corpuscles without a corresponding increase in the amount of hæmoglobin (Gowers, Baxter and Willcocks); but the reverse has also been noted (Hayem), and in a series of cases published by Moriez from M. Hayem's clinique the increase in hæmoglobin was marked from the first, and, of course, greater than the increase in the number of corpuscles, which was high at the commencement. Moriez gives several tables illustrative of the effects of this and other modes of treatment, using the symbols N, R, and G to represent respectively the number of the red corpuscles per cubic millimetre, their richness—i.e., the number of corpuscles in healthy blood to which they are equivalent, and their functional value or quality, G being equal to $\frac{R}{N}$. For the normal standard to be reached not only should the figures R and N be equal and of the full amount—(i.e., 5,000,000 per cubic millimetre), but they would then contain the same amount of hæmoglobin, when G of course = 1. The mean results of twelve cases thus tabulated gave before treatment (by iron) N – 4,031,745, R – 1,991,318, and G – 0·49; after treatment, N – 4,747,675, R – 3,940,000, and G – 0·83. I give the results of similar estimations in a few cases lately in the Middlesex Hospital (see Table), the most remarkable

Cases of Anæmia treated by Iron and Arsenic.

No.	Date.	Number of Corpuscles.	Hæmoglobin.	Quality of Corpuscle.*	Treatment.
1.	Jan. 6th	2,090,000	——	—	Ferri sulph.
	„ 14th	2,750,000	32 per cent.	0·37	„
	„ 27th	3,170,000	42 „	0·66	„
	Feb. 2nd	3,600,000	——	—	„
2.	Jan. 12th	4,050,000	45 per cent.	0·55	„
	„ 20th	4,430,000	52 „	0·58	„
3.	June 16th	2,400,000	——	—	Ferri arsenias.
	July 6th	3,900,000	——	—	Quin. c. ferro.
4.	Dec. 1st	3,700,000	40 per cent.	0·54	Ferri sulph.
	„ 11th	3,800,000	80 „	1·05	„
	„ 24th	——	104 „	—	„
5.	Dec. 3rd	3,800,000	52 per cent.	0·68	Liq. arsenicalis.
	„ 28th	4,060,000	80 „	0·98	„
6.	Feb. 2nd	2,400,000	23 „	0·46	„
	„ 8th	2,800,000	30 „	0·70	Ferri dialysat.
	„ 21st	3,700,000	30 „	0·52	On & after Feb. 10

* Calculated by dividing the corpuscular richness by the actual number of corpuscles, the amount of hæmoglobin being the indication of the former.

being No. 4, where the percentage of hæmoglobin was doubled within ten days. This case was treated with sulphate of iron and bicarbonate of potash, and it will be seen that although the number of corpuscles was but slightly affected, their functional value rose above the normal. Unfortunately no numeration was made on Dec. 24th, when the actual amount of hæmoglobin was much higher still, so I cannot say whether in point of number the corpuscles in this case still remained so much below the normal.

Under the use of iron the corpuscles, according to Hayem, also increase in size, and the large number of hæmatoblasts which he finds in the blood of chlorotics appreciably diminishes during the treatment. These methods of blood-measurement might be applied to discriminate between the efficacy of the different salts of iron, and also to estimate the different modes in which it is administered—from the waters of a chalybeate spring to the concentrated doses in which we often give it medicinally. Indeed, as to the form and mode of the administration of iron, I can quite confirm the opinion of those who regard the sulphate as the most rapid in its effect, and who urge its administration in large doses. It is remarkable how well it can be borne, and for my own part I am content to prescribe it in almost every case of pure chlorotic anæmia. At the same time we possess so many different preparations of different degrees of astringency, that there are scarcely any cases in which some form of this metal is not tolerated.

Next to iron, and in some forms of anæmia to be preferred to it, is *arsenic*. This metal is a powerful hæmatinic. It acts on the tissues as well as on the blood and blood-forming organs; and its effect upon the cutaneous epithelium has been actually demonstrated. It is almost the only drug which has been successful in the treatment of severe idiopathic anæmia—which more often resists all medication. The patient under Dr. Cayley's care, where the anæmia was most profound and the corpuscles had fallen to a little less than one-half the normal, notably improved under arseniate of iron. A case was recently recorded from St. Mary's Hospital under the care of Dr. Broadbent,[3] which is a good illustration of the efficacy of arsenic. A woman, forty-two years of age, who had been progressively anæmic for about four months, and was in an extreme condition when admitted (estimated number of corpuscles two days later being 560,000 per cubic millimetre, or 11·2 per cent.), was placed upon liquor arsenicalis with digitalis. The dose of the liquor was increased from two to four minims, and was administered six times daily. In two months time the number of corpuscles had increased to 64 per cent. In the remarks appended to the report of the case it is held "that there can be little doubt that it was one of essential or pernicious anæmia; the patient had the appearance characteristic of this disease, and the sub-febrile temperature; while the red corpuscles of the blood were not only reduced in number to an unusual degree, but deformed. Whether this diagnosis be accepted or not, the failure of iron to do good, and the rapid improvement during the administration of arsenic, are remarkable. In little more than two months the patient passed from extreme anæmia to apparently perfect health, with wonderfully good colour of the cheeks and mucous membranes, and she continued well and strong for some months after leaving the hospital, up to the time when she ceased to present herself for examination." Such cases as this speak strongly in favour of the value of arsenic. I have sometimes prescribed it in simple anæmia (see Table, Nos. 5 and 6) with good result, but as a rule one prefers the use of iron, which acts more promptly and fully. Phosphorus has been sometimes administered with success in essential anæmia; as, for example, by Dr. Broadbent in a case where iron had failed; but it has on the whole but few, if any, advantages over arsenic, and its long-continued administration is to be deprecated.

It was at one time thought that manganese could replace iron as a hæmatinic, when that metal had failed to influence anæmia; but it never gained much favour, and has fallen into disrepute. Indeed, from some recent observations of M. Hayem referred to by Moriez, manganese would appear to have no influence in increasing either the red corpuscles or the hæmoglobin, at any rate in the right direction. Its administration appeared to diminish the effect of iron, which was given subsequently. Another treatment that has been sometimes prescribed is that of inhalations of oxygen. The same observers have studied the effects of this treatment also, and declare that although it increases the appetite and the power of assimilation, it has no influence in increasing the richness of the blood in hæmoglobin (Moriez). Lastly, quinine and strychnine, although not hæmatinics in the

[3] Brit. Med. Journal, Sept. 25th, 1880, p. 508.

trict sense of the word, are very valuable as adjuvants, and the same may be said of the mineral acids and bitters.

The subject of *transfusion* of blood is one which demands the most thorough examination in reference to the treatment of anæmia. In some forms of symptomatic anæmia, especially where the cause is a sudden and excessive loss of blood, there can be no question either as to the propriety of transfusion or its efficacy in saving life. It is another matter, however, when we have to deal with the insidious and progressive anæmia, which has been denoted by the term "pernicious." Transfusion has not yet been employed to a very large extent in such cases, and it has often failed of success. I find that it was performed in 20 out of 110 cases, to which I referred in my last lecture, and that the six recoveries (one of which was not permanent) all occurred in Quincke's practice. I think his success in these cases may be attributed to his having resorted to transfusion at a less advanced stage of the disease than is usually the case. His first cases were invariably fatal, and in his commentary upon them he pointed out the inutility of deferring transfusion until the heart is already advanced in degeneration, and restoration is well nigh hopeless. In one of his papers, where he summarises the results of five such transfusions, he says that defibrinated human blood was used, and from 80 to 100 cubic centimetres injected into the radial artery. (Professor Schäfer, in his valuable report to the Obstetrical Society of last year, advocates immediate injection from artery to artery as far preferable to intravenous injection, whether mediate or immediate. It will be seen that Quincke performs an operation the same as regards the recipient of the blood; but he uses defibrinated blood, and does not practise the immediate transference.) Usually, during the transfusion, the face became flushed, the pulse slowed, and sometimes very weak, almost a state of collapse occurring. In three cases a rigor, followed by fever, occurred a short time after the operation. On two occasions the transfusion was followed by hæmatinuria and casts in the urine, but not by the escape of actual blood-corpuscles. In one of these cases the amount of hæmoglobin passing off by the urine was estimated at $\frac{1}{15}$th of that injected, and Quincke points out that similar effects follow, according to Ponfick, the transfusion of an animal with blood from another of different species. In some cases petechial and other hæmorrhages follow transfusion. Quincke seems to be firmly of the opinion that by transfusion the blood is reinforced with functionally active elements, and the results of his cases apparently bear out that opinion. Transfusion, then, is a correct and rational procedure, and one which we are bound to adopt in these cases of progressive idiopathic anæmia if no ordinary treatment makes any impression on them. But its results can never be expected to be crowned with such success as in cases of acute anæmia following hæmorrhage, for the simple reason that we are dealing with a disease the origin of which lies deep in the organism, and the effects of which are already manifest in grave degenerative changes in the heart. Perhaps the less heroic measure of administering enemata of defibrinated ox blood, which was advocated by the Therapeutical Society of New York as of great value in conditions of exhaustion and anæmia, may be found of service. At any rate, it deserves the careful trial which Dr. Sansom in this country has claimed for it.

It only remains for me to thank you for the kind attention you have given me during this imperfect attempt to illustrate the leading features of anæmia. I have consciously left many points untouched, whilst many of which I have spoken are capable of much fuller analysis than I have attempted. For all the shortcomings of what has been little more than an abstract of the present state of knowledge on this subject I ask your indulgence.

BEQUESTS AND DONATIONS TO MEDICAL CHARITIES. Mr. Henry Rogers, late of Leadenhall-street, bequeathed £500 each to the South Staffordshire General Hospital and the Wolverhampton Dispensary; and £500 more at the death of his widow. Mr. Samuel Courtauld bequeathed £2000 to the Essex and Colchester Hospital. By the will of Mrs. Elizabeth Baily, late of Clifton, the Bristol Royal Infirmary and the Bristol General Hospital have received £500 each, and the Redland Dispensary and the Hospital for Sick Children, £100 each.

THE annual dinner of the Pharmaceutical Society of Great Britain is announced to be held at Willis's Rooms on the 17th of May.

ON WOUNDS OF THE KNEE-JOINT.

BY WALTER RIVINGTON, F.R.C.S. ENG.,
SURGEON TO THE LONDON HOSPITAL

(Concluded from p. 658.)

I WILL now give my own experience during the ten years of my service as one of the senior surgeons of the London Hospital. In December, 1872, a man, fifty-two years of age, was admitted into Bowley ward with a lacerated wound on the outer side of his thigh communicating with the knee-joint. It was a very severe case, for the wheel of a waggon, drawn by four horses and containing two and a half tons of potatoes, had gone over his limb, contusing the muscles and soft structures of the thigh, and blood had been effused freely into the intermuscular planes of connective tissue. Acting in consultation with Mr. Tay I sealed the wound with lint and collodion. Great swelling of the joint, leg, and thigh, inflammation, and suppuration ensued; profound constitutional disturbance, ushered in with chills and shivering; temperature rising within forty-eight hours to 105°, pulse to 144, and respiration to 33; extreme restlessness, necessitating repeated hypodermic injections of morphia; delirium, and death within a week. This was the progress and termination of the case. I am far from saying that in so severe an injury the issue would have been different if the carbolic spray had played upon the wound, and if the wound and the joint had been freely syringed out with a solution of carbolic acid, for it is not always possible to antisepticise severe and irregular wounds communicating with the intermuscular spaces, and I was informed at Edinburgh that the effect of syringing out freely the wounds accompanying compound fractures appeared in some instances to be to drive the germs inwards instead of outwards, and had not been attended with results uniformly satisfactory. I have now in the hospital a young woman with a compound dislocation of the elbow-joint, the radius and ulna having been displaced backwards with free laceration of ligaments and great bruising of the limb. Notwithstanding our best exertions, the carbolic injections were unsuccessful, the discharges became putrefactive, and the gauze dressings had to be abandoned. Nevertheless, I feel convinced that if the patient with the lacerated knee-joint could have been saved, he could only have been saved by the free use of carbolic acid and antiseptic dressings. Mr. Tay and I discussed the propriety of adopting the carbolic-acid treatment. Unfortunately that treatment had not then taken a firm root in London, and we were both sceptical concerning its alleged virtues, and inclined to believe that a strong irritant like carbolic acid was not an advisable application to delicate membranes, serous or synovial. A case had recently occurred in the hospital, and had been reported in one of the journals, in which the knee-joint was said to have been wounded, and syringed out successfully with carbolic acid, but the house-surgeon who treated the case was by no means certain that the joint had been entered either by the wound or the carbolic acid, and he remained in doubt when I had last the opportunity of seeing him. These considerations led us to reject the Listerian system. Cases have occurred in which the patella has been fractured, and considerable effusion of blood has taken place over the fracture, obscuring the injured bone. Inflammation has set in, and a fluctuating swelling, accompanied by redness, pain, and increased heat, has presented itself to the surgeon beneath the skin and superficial fascia, and apparently over the patella. Believing that he had to deal with an abscess, the unwary practitioner, be he general practitioner, surgeon, or house-surgeon, has taken a scalpel or lancet, and made an incision, letting out nothing but blood. With the emission of the blood the swelling has subsided, and to his mortification the practitioner has discovered the transverse fracture of the patella, and becomes painfully alive to the fact that he has opened the knee-joint.

Two such cases came under my observation some years ago, and what was the issue? In both severe inflammation and suppuration, calling for free incisions into the joint and limb and insertion of drainage-tubes; in both a serious illness, in one instance terminating fatally, in the other more fortunately in recovery with a stiffened limb. Similar catastrophes have followed interference with bursæ communicating with joints. Can we doubt with our present experience that the fluctuating swellings over the fractured patellæ

might have been opened safely under the protection of the carbolic spray? And as to bursæ, I have now in the hospital a case of ganglion communicating with the knee-joint which I dealt with successfully by removing a portion of the wall of the sac under complete antiseptic precautions.

A case of compound fracture of the patella occurring in my practice nine years ago, in which an attempt was made to save the limb without the use of carbolic acid, terminated fatally from pyæmia. Malgaigne's hooks used for the treatment of fracture of the patella have been known to penetrate the knee-joint. One authentic case at the hospital has been communicated to me, resulting in the amputation of the patient's limb. There is a loose cartilage in the knee-joint. The septic surgeon adopting the best precautions known to him, makes the lauded subcutaneous incision of the capsule and synovial membrane, and squeezes the cartilage beneath the common integuments. Violent inflammation, rigors, pyæmia, and death are the results. Here again the operation might have been performed with perfect safety if Lister's method had been used. A young man, eighteen years of age, came under my care in February, 1875. Five weeks before admission he had injured his knee with a chisel. The wound healed and he went to work. He struck the cicatrised wound and it broke out again. On admission into the hospital there was a small tortuous wound at the lower and outer part of the left thigh above the patella. There was a good deal of pain as well as some swelling of the joint. I could not ascertain to my satisfaction that the wound communicated with the knee-joint, and I treated the case for a few weeks with rest on a McIntyre's splint, evaporating lotions, and ice. Shortly it became evident that the joint was implicated and contained pus. The patient suffered from hectic fever, his appetite failed, and he passed restless nights. He had not had any rigors since his admission into the hospital. It became evident that something further must be done. Three courses were open. 1. To make free incisions into the joint, insert drainage-tubes, and wash out the cavity daily. 2. To amputate the limb. 3. To excise the knee-joint. Looking to the condition of the patient I was myself inclined to amputate. A consultation was held, and as my colleague, Mr. Hutchinson, thought that the limb might be saved by excision, and that excision was preferable to amputation, I adopted his suggestion. The synovial membrane was found generally inflamed, and passing into a state of pulpy degeneration; there was an abscess deep in the popliteal space. The patient did well for a couple of days, when part of the flap sloughed, abscesses formed at the lower part of the thigh, and amputation was performed. Two days later pyæmia set in, with rigors and distension of the right knee-joint with pus. The aspirator was used on two or three occasions to empty the joint. Death took place three weeks after the excision, and pyæmic abscesses were found in the lungs. The case corroborates the conclusion at which surgeons not practising Lister's system have gradually arrived that excision is not a favourable mode of treatment for a suppurating knee-joint. Nor has amputation been much more successful. Preference is given to free incisions, but uniformly good results by these means cannot be expected. The case also leads us to inquire what would have been the result if Lister's plan had been applied when the joint was first wounded with the chisel?

It was with an experience of the kind just related that, at the Edinburgh meeting of the British Medical Association, I saw Professor Lister in an obstinate case of hydrops articuli incise and explore the knee-joint under the carbolic spray, with the most perfect confidence that he was not exposing the patient to any risk of life or limb. The favourable progress of the case subsequently I found to be but a type of what occurred in other cases under the like conditions. The demonstrations of Professor Lister at Edinburgh, acting I trust upon a candid mind open to the reception of truth, convinced me at once that it would be no longer justifiable, at least in regard to wounds of joints, to adhere to the old unreliable lines of treatment. Since then the advent of Professor Lister to the metropolis has rendered us all familiar with what may be accomplished safely under the protection of the spray and gauze. For a surgeon deliberately to convert a simple fracture of the patella into a compound fracture would assuredly have been deemed by surgeons of the old school as a procedure almost criminal. Nevertheless, Professor Lister and his disciples have shown that an ununited fracture of the patella may be treated advantageously by exposing the separated fragments, and wiring them together. Whether this practice should be imitated, exposed as patients would be to some accidental incompleteness or failure in the antiseptic details, is another question. For my purpose here it suffices to know that under complete antiseptic precautions a free opening of the knee-joint appears to be attended with as little risk as the division of a tendon.

With these facts before us can we doubt that Lister has established the claim which he has advanced, that he has introduced a new principle into surgery? If this be so it cannot be wrong to attribute the successful issue of the case which I related at the commencement of this paper to the application of the antiseptic treatment. But, if any further corroboration were needed, it would be found in two cases of compound fracture communicating with the knee-joint which occurred a few weeks ago at the London Hospital in the practice of my colleague Mr. Couper, who from the first has been a warm adherent to Lister's system. Mr. Couper has kindly given me permission to refer to them. On Oct. 3rd two young men of nineteen years of age were riding in a dog-cart. The horse became restive, and kicking out vigorously struck with his hoofs the left knee of each of the occupants of the dog-cart, inflicting on one a compound transverse fracture of the patella, and on the other a compound fracture of the internal condyle of the femur, the wound communicating with the knee-joint. After their admission into the Hospital Mr. Neatby (Mr. Couper's house-surgeon) injected the joints with a solution of carbolic acid (one in nineteen), carefully cleansing the wounds, and removing from the case of compound fracture of the femur a small fragment of loose bone. Drainage-tubes were inserted, and the wounds dressed with the protective and gauze. The progress of both cases has been most satisfactory. In the case of compound fracture of the patella there has been no suppuration at all, nothing but the exudation of some reddish serum. The wound has closed, and the fragments are in apposition, but not as yet firmly united. The temperature rose on the second day to 101·4°, and on the 7th to 100·8°; otherwise it has been little above the normal. In the other case some bagging of pus took place in the thigh, the abscess being opened by the house-surgeon on the fifth day. The highest point marked by the thermometer has been 102°. In both cases there has been a remarkable freedom from complications and constitutional disturbance. It is too early to predicate the ultimate issue as regards the mobility of the articulations.

Here, then, are three consecutive cases of wounds of healthy knee-joints, all of a severe character, and treated in a hospital with an established reputation for pyæmia, recovering perfectly without any of those serious sequelæ so familiar to surgeons of the last generation, and to some of the present, as to produce a profound dread of accidental or intentional wounds opening into the cavity of the articulation. And these results have been demonstrated by Lister's justifiable surgical procedures to be the rule and not the exception, when the details of his method are faithfully carried out under the immediate superintendence of the surgeon. It follows that such results would alone be sufficient to establish the immense value of the system which Professor Lister has perfected with the "prolonged patience" which has been regarded as the essence of genius. Slowly as scientific truth is received, and Syme, I believe, used to aver that after a truth had been established in Edinburgh it was ten years before it reached London, we have advanced thus far at any rate, that it is no longer a question whether Lister's system is to be accepted or not, for surgeons generally accept it in whole or in part, and gratefully acknowledge the debt which they owe to the founder. The question which now remains to be debated is the relative value of Professor Lister's system and other methods of treating wounds in particular classes of cases.[1] For joints I can imagine nothing that can be greatly superior to Listerism, but how far it may be superior in amputations, in ligature of arteries, in compound fractures, in wounds of the peritoneum (accidental or surgical), has not been finally determined. All these must be debated upon their own merits, and even if it should be proved that other treatment is as good or superior in any, or in all, for there is no finality in surgery, the decision could not detract aught from the grand results achieved by the antiseptic system in the diminution of the mortality in hospitals after injuries and operations, or lessen by one iota the obligations which surgery owes to Lister by ex-

[1] Some excellent results have been obtained in compound fractures of the patella by Mr. Jessett of Erith, and Mr. Corner of Poplar, by the use of carbolic oil as a dressing after washing out the joint with a solution of carbolic acid. For Mr. Jessett's case see THE LANCET, 1873, vol. ii., p. 603.

tending its power for good, by introducing precision and certainty in place of doubt and chance, and lessening the anxiety felt by all who have serious and responsible cases committed to their care.

Finsbury-square.

THE DIAGNOSIS AND TREATMENT OF WHOOPING-COUGH.

BY ROBERT LEE, M.A., M.D., F.R.C.P.,

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THE history of whooping-cough, or chin-cough, would almost lead to the belief that the disease must have existed long before it was recognised as a specific malady and designated by a special name.

I do not propose to enter fully into the historical narrative, but there are two or three facts which I shall briefly state, the explanation of which is worthy of consideration.

In the year 1678, or about two hundred years from now, there was a mortality in London of 20,471, amongst which one case of whooping-cough and two cases of chin-cough are mentioned, this being the first entry in the returns. For fifty years after chin-cough and whooping-cough were registered separately, as though they were different in their nature, till in 1730 they were entered together, when the mortality was 152 in 27,000, or 1 death in 177. Gradually the mortality increased, till it reached an average of 1 in 29 for London; and during the last few years the whole country has suffered, and now there is a higher mortality in the total of deaths in Great Britain than has ever been registered before. Are we to explain these facts by supposing that the disease has actually increased, or that we have been slow to recognise it? I shall say no more in detail on this point, except that it is a far more important one than might be imagined, and has a distinctly practical bearing on the questions of diagnosis and treatment.

It is now about nine years ago since I began to observe, with the opportunities afforded by the practice of a large children's hospital, the various features of whooping-cough, noting any facts which appeared to be important, as they occurred from time to time. It is probable that those who have been occupied in similar practice will agree with me that among the poorer classes of a large city the average of whooping-cough cases may be estimated at nearly 10 per cent. of all cases under treatment.

The first point which forces itself on the attention is, that whooping-cough is far more prevalent in infancy than is generally supposed. Sir Thomas Watson's opinion that the disease is rare in very early life is certainly not confirmed by my experience; and as this opinion has been evidently received and restated in works on medicine—as, for example, in one of the most recent and popular in use in America, which says that the disease rarely affects children before weaning—it is well to direct attention to a possible source of error in diagnosis. I am quite satisfied that if an infant of only a few days old be in the same apartment with another child suffering from whooping-cough, whether it be weaned or not, it will, in all probability, take the disease; at least, its age will not protect it. And just as the mortality is greater among children from whooping-cough before the age of twelve months than later, so the occurrence of the disease is more general.

The next point of interest is the degree to which whooping-cough is infectious. Of late the possibility has been discussed of the principle of imitation being involved in the symptoms, and there has been a tendency to refer them to nervous derangements, much in the same way that the disease found its place in the nosology of Cullen, along with asthma, in the class of spasmodic diseases. But when it is clearly shown that whooping-cough is very infectious, and that it must be regarded properly to belong to the class of which scarlatina and measles are typical members, I need hardly remark on the little practical use of discussing how far a child may control the cough by effort, or what is the precise physiological explanation of the nervous symptoms. It will be time for that when we have ascertained how to prevent the spread of the malady and have diminished its mortality.

The following are a few cases out of a large number of which I made notes at the time that the subject of the infectious character of the disease was under investigation, and here I may remark that every precaution is taken to separate the whooping-cough cases from others.

In 1876 a child aged eighteen months was brought, on May 11th, to be treated for convulsions, being otherwise well. On July 3rd whooping-cough was clearly diagnosed—that is, fifty-three days later.

On May 22nd a child was brought with enlarged cervical glands. On June 12th the first symptoms of whooping-cough showed themselves. On July 10th a brother of the child, not attending the hospital, had the disease.

A child (male, aged ten weeks) was brought to the hospital with eczema of the head and body on May 29th. Had whooping-cough on July 10th. Another member of the same family was brought with it. A boy, aged thirty-seven months, was brought in for congestion of the brain on June 15th. On July 20th the disease was well-marked. A child (male, aged seven weeks), emaciated from ill-feeding, was brought in on May 11th. On June 19th the disease first showed itself. The mother would not allow that it had whooping-cough till four weeks after this. Another child was brought for rickets on May 22nd, and on July 14th the disease was well-marked.

In my note-book for 1878 there are the following instances: A child (female, aged four weeks) was brought with congenital syphilis on May 30th; the disease was well-marked on June 20th. Another on the same day with eczema, and after the same period showed symptoms of the disease. Another child (nine months old) was brought with eczema on Oct. 19th, and on Nov. 24th there was well-marked whooping-cough. Another child (aged three weeks) was brought with obstinate constipation on Nov. 3rd, and on Nov. 20th symptoms of whooping-cough first showed themselves. There are eleven more cases, of the respective ages of eighteen months, fourteen months, three months, six weeks, three months, eight months, seven months, four months, thirteen months, thirteen months, and eighteen months, none showing any symptoms of the disease when they were first brought, and suffering from rickets, eczema, improper food, or other causes of illness.

Taking an average from these twenty-one cases we have thirty-two days as the period which may elapse between exposure to infection and well-marked symptoms of the malady. Very frequently I have noted in cases the first symptoms of whooping-cough from a week to a fortnight before the mother would admit the fact, and in stating the average at thirty-two days I should deduct ten days or more for the obscure symptoms of the early stage of the malady, thus making the period of incubation generally three weeks.

It is singular to notice how obstinate most women are in denying that their children have whooping-cough, so that their evidence or opinion is of little value. Among these cases there was one of a mother who caught the disease. She lost her infant and had two other children ill with it. In another family two others at home caught it, one an infant five weeks old. In another the infant caught it, aged seven months.

Without dwelling long on the law of infection as regards adults, to judge from seven cases in hospital practice, and an equal number in private life, in which the father, mother, or nurse caught whooping-cough a second time, I think we may conclude that close and constant exposure to the influence of infection is the almost invariable cause of such an occurrence.

(To be concluded.)

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The Directors of this Society held their usual quarterly meeting on Wednesday, April 13th, at 5 P.M. Dr. Pitman, V.P., was in the chair. Applications for relief were read from fifty-nine widows, fourteen orphans, and four recipients of grants from the Copeland Fund. A sum of £1250 was recommended to be distributed at the next quarterly court, should the visitors report favourably on the cases. There were no fresh candidates for membership or for relief. The death of one member was reported. It was resolved to advertise once a quarter in the medical journals with the desire of making the Society better known. Dr. Temple, Dr. Self, Dr. Cumberbatch, Dr. Augustus Brown, Mr. Spencer Watson, and Mr. Vasey were the members selected to fill the annual vacancies in the directorship. The annual general meeting is to be held on May 18th, at 5 P.M.

ON TRICUSPID STENOSIS.

By BEDFORD FENWICK, M.D.

(Continued from p. 656.)

THE collated cases are summarised in the table already published (No. 1), and I will discuss the subject in the order there followed:—1. Sex. 2. Age. 3. Previous History. 4. Diagnosis, Prognosis, and Treatment. 5. Size of the Tricuspid Orifice. 6. Size of the Mitral Orifice. 7. Concurrent Cardiac Changes.

1. *Sex.*—Out of these 46 cases, *41, or 89·1 per cent., were females, and only 5, or 10·9 per cent., were males.* This appears to me to be very significant, interesting, and conclusive—significant of some great and hitherto undiscovered cause, interesting as a curious statistical fact, and conclusive as a proof that tricuspid stenosis is *not* of congenital origin; for it will not, I think, be asserted that the female is more subject than the male to cardiac changes. In the ten years from 1871 to 1880 there were 31 cases of all kinds of congenital malformation of the heart exhibited, and tested therefore, before the Pathological Society. Of these, 17, or 54·8 per cent., belonged to males, and only 14, or 45·2 per cent., to females. Dr. Peacock[1] writes: "Malformations are certainly *most common in males.* Of 91 cases, 52 were males and 39 females, or 57·2 and 42·8 per cent. respectively." Nor I think would the assertion be correct of adults. Of 157 cases of all forms of heart disease treated in the London Hospital in one year, 88 were males and only 69 were females, or almost exactly 4 men to every 3 women. Finally, these 46 cases can in no sense be called "selected." They are collected from very varied sources, recorded by numerous observers, and extend over a period of fifty-five years. They are all that are noticed in Schmidt's or Virchow's Year-books since the early part of this century.

I may add that Dr. Norman Moore has had the great kindness to search the post-mortem register of St. Bartholomew's Hospital, and has found 13 cases there recorded. Of these, 12 were women, and only 1 a man.[2]

2. *Age.*—The youngest age at death in women was seventeen, in men twenty-one. The oldest age at death in women was fifty-eight, in men sixty-four. The average length of life in women was thirty-one years, in men 36·4 years. The majority of cases died between twenty and forty, and a rather larger number in the first than in the second decade. Only two cases lived beyond the age of fifty, and only three died before the age of twenty. This will be more clear on reference to Table II. Dr. Peacock[3] exhibited a specimen of congenital stenosis of the tricuspid from a child who only lived seven months.

3. *Previous history.*—From its birth this child was livid, and it became almost black when coughing, and it suffered much. In only one case of these forty-six is it noted (No. 18) that the patient suffered from "darkness of the surface" from birth. A few others are noted as "always delicate," "stunted in growth," and so on; but surely it will not be asserted that every delicate girl—that every badly-developed woman necessarily suffers from some congenital cardiac defect. And unless this assertion be made it seems to me most illogical to infer that this delicacy, this stunted growth, must have been the sequence of latent disease in these cases. I am inclined to believe it to be the cause of the cardiac changes. In the great majority of cases it is distinctly noted that the patient's previous health had been good. Now, I suppose it will not be insinuated that tricuspid stenosis is conducive to health or long life, or that it does not produce marked results, or even that it can exist for long without these results becoming apparent. In this connexion the previous history of the second case I have here recorded becomes very important. Here a woman enjoys good health, does hard work often, for eighteen years, suffers from and shakes off an attack of acute rheumatism; some years later is found to have her heart (presumably only) slightly diseased; five years later again shows signs of mitral stenosis, and commencing disease of the aortic orifice. This latter, after another year, and another attack of acute rheumatism, is found to have progressed into a state of stenosis. Finally, in one more year, a fresh attack of articular rheumatism has exhibited fresh inflammatory power, and it is found by post-mortem examination that the tricuspid orifice is stenosed also. Is not this the history of the march of a disease? Finally, in 23 out of 46 cases, there was a well-marked antecedent history of acute or subacute rheumatism. Out of 304 cases of all kinds of heart disease, I find that there was a previous history of rheumatism in 152, or again exactly 50 per cent. It seems to me that all these facts are powerful proofs that tricuspid stenosis in adults is an acquired disease, and is therefore *not* of congenital origin.

On reference to the following table, it will be observed that 35 of the cases died before forty, and only 10 after that age; that every male case had suffered from rheumatism; that the average length of life in rheumatic cases in men was 36·4 years, and in women 30·1 years; and that the average length of life in women with no rheumatic history was 33·2 years.

TABLE II.—*Age, Sex, and Previous History.*

Ages.	No. of Cases.	Rheumatism.			No Rheumatism.			Not noted.
		M.	F.	Total.	M.	F.	Total.	
15 to 20	3	—	1	1	—	2	2	—
20 to 30	17	2	8	10	—	6	6	1
30 to 40	15	2	6	8	—	6	6	1
40 to 50	8	—	3	3	—	4	4	1
50 to 60	1	—	—	—	—	1	1	—
60 to 65	1	1	—	1	—	—	—	—
Totals...	45*	5	18	23	—	19	19	3
Percentages ...		100·0	48·6	50·0	—	51·4	—	—

* In one case (No. 10) no age or previous history is noted.

4. *Clinical features.*—These were noted in 28 cases. Of these cyanosis or lividity was well-marked in 22; dropsy, generally extreme, in 15; dyspnœa, often orthopnœa, in 27. In most cases there was great hepatic tenderness (and enlargement), in many severe epigastric pain. In 13 cases the area of cardiac dulness is said to have been much increased laterally. As the right auricle was in every case, save one, found after death to be (often greatly) dilated, a well-marked lateral increase of the heart's space may, I think, be considered a diagnostic feature of the disease. In three cases it is stated that there was a marked undulation of the whole left anterior chest with the cardiac action. As it was remarked in many cases that the heart's impulse was very powerful, this phenomenon was probably present even more frequently than noted. In 9 cases a very marked turgescence of the jugular veins was visible. For anatomical reasons I imagine that this condition in a less degree perhaps must be present in every case of advanced stenosis. The urine was generally very scanty, and contained albumen. The temperature, when recorded, was normal or subnormal. The pulse varied so greatly that it furnished no definite conclusions. *Murmurs* were noted in 32 cases. Of these a bruit was audible at the base in 12; in 7 being purely systolic, in 2 purely diastolic, and in 3 occurring with both sounds of the heart. A presystolic bruit was audible at the point of impulse alone in 10 cases, at or about the ensiform cartilage alone in 5 cases, and at both the right and left apices in 6 cases.

A systolic murmur was noted at the point of impulse in 15 cases, at or near the lowest part of the sternum in 9 cases. Thus in 31 out of 32 cases there was an evident mitral bruit, and in 20 cases out of 32 there were murmurs which probably were caused by the tricuspid changes, and these murmurs were audible over a limited and well-defined area, which I would thus delineate. If the point of junction of the sternum and the fourth right costal cartilage be taken, and from thence one line be drawn vertically downwards, and another obliquely to the junction of the sixth left costal cartilage with its rib, a third and horizontal line from the latter point,

[1] Malformations of the Heart, p. 117.

[2] Since writing the above Dr. Peacock has been good enough to send me a paper on two cases of Tricuspid Stenosis published in Toronto some years ago. One of these was an old museum specimen, and its sex unstated. The other was from a woman. Dr. Horrocks has also still more recently brought a well-marked example of the disease (from a woman) before the Pathological Society.

[3] Pathological Society's Transactions, vol. v., p. 64.

drawn to the right, will cut the first or vertical line just below the tip of the ensiform cartilage, and complete what I would venture to call the lower tricuspid triangle, or the area within which tricuspid stenosis murmurs are chiefly audible. I use the term "lower" because a similar figure might in like manner be drawn rather above and to the right of this which would cover the area of tricuspid regurgitant murmurs. I am aware that this is not only a smaller space, but greatly diverse in position from that assigned to general tricuspid murmurs by a great authority, Professor Gairdner of Glasgow. It is also rather different and somewhat smaller than that given by a very careful clinical teacher, Dr. Hayden of Dublin, after a thoughtful review of three well-marked cases. But, with all deference to these very accurate observers, I am inclined, after a somewhat careful review of these 32 cases, to believe that the above defined area is mainly correct, especially as, after deducing the triangle from the facts, I found that its highest point lies almost exactly over the tricuspid orifice, and that it covers the course which the blood must take on being propelled downwards from this opening towards the apex of the right ventricle. With regard to the murmurs heard, the mechanism of the cardiac cycle, the analogy of tricuspid and mitral stenoses, and the fact that a presystolic murmur is pathognomonic of the latter disease, justify, I think, the assertion that the former may also, and probably does, produce a bruit heard during the cardiac pause. And this is proved by the fact that the disease has been diagnosed during life from the presence of this one sign by Dr. Hayden and Foster, and that in 11 out of 32 cases there was a well-marked harsh, presystolic bruit heard during life within the lower tricuspid triangle.

A. Diagnosis.—The presence, however, of this murmur in this area does not necessarily mean the existence of true orificial stenosis. Professor Gairdner diagnosed tricuspid obstruction from this one physical sign in a man in 1862. Ten years afterwards the man died, and obstruction of the tricuspid was found, not from any disease of the valves, not from any change in the orifice, but from the presence of a small globular pedunculated tumour of the auricular wall, which descended into the aperture after the manner of a ball valve. Again, Dr. Ernest Sansom informs me that a patch of roughening on the pericardial surface of the right auricle may give rise to a rubbing sound audible in the lower tricuspid triangle, and simulating a presystolic murmur even to the most practised ear. To summarise then the diagnostic features of this disease, I think it may be asserted that—

1. If there be clear evidence of mitral stenosis, which exists in every case of the analogous tricuspid condition, a well-marked murmur in the lower tricuspid triangle, if it be harsh in tone, and especially if it be presystolic in time, the patient an adult female, the systemic venous circulation more embarrassed than the pulmonary, and the right auricle much dilated, there is probably stenosis of the tricuspid.

2. If the same signs be present in a man, and the murmur in the lower tricuspid triangle be very clear, or very clearly distinct from that at the apex, and plainly presystolic in time and tone, the disease is tricuspid stenosis. If the latter conditions be not well marked it is probably a case of tricuspid regurgitation.

3. If there be a distinct presystolic murmur at the apex, not much systemic venous obstruction, and *no evidence of mitral stenosis*, the bruit is caused by some congenital malformation of the tricuspid valves, or due to roughening of those valves, to the presence of some such condition as found in Professor Gairdner's case, or to a patch of pericardial roughening localised to the right auricle.

4. If the patient be a female, has suffered much from acute rheumatism, is known to have previously exhibited signs of mitral stenosis, has great dilatation of the right auricle, a feeble cardiac action and greater systemic than pulmonary venous obstruction, even though no murmur be heard at all, or only a faint systolic bruit be audible, tricuspid stenosis may be present to an extreme degree.

(To be concluded.)

DENTAL EXAMINERSHIP.—It is stated that the Committee on Examinations in Anatomy and Physiology of the Royal College of Surgeons will meet on Monday next to consider and report to the Council on the applications and nominations of "persons skilled in dental surgery."

CASE OF MYXŒDEMA.

BY HENRY A. LEDIARD, M.D., F.R.C.S.,
SURGEON TO THE CUMBERLAND INFIRMARY, LATE MEDICAL SUPERINTENDENT TO THE CENTRAL LONDON SICK ASYLUM, CLEVELAND-STREET, W.

ELLEN D——, aged fifty-four, was admitted into the Cleveland-street Infirmary, London, on August 26th, 1879, during my absence from home. She was being treated for dropsy, and I found this note taken, that the abdomen appeared to be ascitic, but gave no fluid wave on percussion. There was no albumen in the urine, and the patient had remained neither better nor worse.

From the description Dr. Ord gave of the disease in a paper read at the Clinical Society, early in the session 1879–80, I at once came to the conclusion that the patient under my care, who was being treated for dropsy, was the subject of myxœdema. I say from his description, for I did not see the patient shown on that occasion; indeed, this is nearly the first case I have seen; one other that I can recollect occurred in Edinburgh. I did not attend the lady, but I well remember her features and manner, which are so very characteristic of the disease. I mention this case in addition to the one I am about to give, because they were both women in somewhat advanced years.

The patient states that she was born in Tipperary; her mother died at sixty (disease?), her father died at forty of fever. There were nine children; the patient is the eldest, two only remain beside herself, the rest died under fifteen years. She had always been healthy until she "got the dropsy," nine months before, when the skin became rough and peeled off, together with weakness in the back and breathlessness on mounting stairs. She has been married and has had eleven children; six died young, and the five living are twelve, nineteen, twenty, twenty-three, and twenty-nine years respectively. Her husband was gouty. She could never write, but can read a paper. Has been a charwoman of late. It was difficult to get much history from the patient, but she did her best, so I tried her relations. Her son-in-law had known her for seven years. She was always a slow speaker, but he thinks she is slower in speech now. She is not so hasty in temper as she used to be, and her voice is deader than formerly. Another person said she had known the patient for eight years. She was always stout and slow in manner, but she looks yellower than formerly and speaks slower, and she cannot understand her so well as before. For some reason I could not induce a daughter to come and be questioned.

The case so closely resembles Dr. Ord's very graphic description that I think I need not give all the clinical features at length, but add that it was noted that the face was puffed and waxy-looking, with a delicate colouring of the cheeks, lips somewhat pouting, no expression, and when the patient smiled the eyes almost disappeared. The tongue was characteristic, being large and flabby; there was often observed an œdematous swelling of the uvula and soft palate. The patient in disposition was quiet and cheerful; certainly very slow of understanding, for to every question she always answered, "What's that, doctor?" As an example of her disposition, I remember that on one occasion a medical friend asked her to show her teeth; she said slowly, "I haven't got none, doctor," and seemed highly amused at the joke. Her chief occupation was knitting stockings, but the needles worked slowly. She took part in the ordinary work of the ward, such as helping the nurse; and I never saw her out of temper for the eight months that she was under my constant observation. She was somewhat inclined to sleep, and occasionally was found nodding in her chair.

As to the thyroid gland, the neck was too fat to enable anyone to say whether it was small, or even present. Occasionally there were glandular enlargements in the neck, below the jaw and above the clavicle, these swellings being usually preceded by well-marked rigors. Back pain was tolerably constant. The skin was always dry, harsh, and rough, not more so on the hands and arms (she had been a washerwoman) than elsewhere. The hair on scalp was plentiful, and black. In order to test the skin I experimented with pilocarpin injected hypodermically. On December 22nd a quarter of a grain was given, the next day half a grain, without result; but on the 28th one grain acted in a few moments, and she began to wipe her face. The nurse reported that the sweating was general and lasted one hour and a half, no inconvenience being complained of,

the patient saying that "there was more water in her mouth."

On December 30th the note runs: "Skin unaltered by the sweating. Extensive area of ecchymosis near pin puncture in a vein." On November 12th, also, it was noted that a pin scratch on her chin had produced some subcutaneous ecchymosis in its track of unusual character.

The œdema was general, and really was not œdema proper, for it only pitted on firm and rather prolonged pressure, very differently from what is seen in ordinary dropsy. The urine was never found to contain albumen, was repeatedly examined, the quantity passed was natural, and the colour always pale; minute analysis was never gone into. The blood I began to examine with the hæmacytometer, but on my resigning my appointment this was in an unfinished state. I made repeated examinations with the ophthalmoscope, but nothing abnormal was seen; the media were exceptionally clear, and pupils well dilated with atropin or duboisin. The laryngoscope found the larynx and vocal cords quite natural. The examination of the vagina and cervix was intended but never accomplished; in one of Dr. Ord's cases the vulva, os uteri, rectum, and anus were noted as showing change. Sight, smell, taste, and hearing were not noticeably altered in any way, neither was any bloody urine observed. The hands were as Sir W. Gull has described them—swollen, broadened, and shapeless, but this may have been accidental, seeing that she was a stumpy, clumsy woman generally. The abdomen was flabby and pendulous, always looked ascitic, but no fluid was ever detected by percussion. The temperature was recorded from October 29th, 1879, to November 18th; one thermometer was used, and from then until April 27th, 1880, two were used twice daily in each armpit without a single intermission, nurse Westell taking the greatest care and interest in these observations, for which she deserves the order of St. Katherine. There was never any marked difference on the two sides, the up and down strokes corresponding nearly exactly. The average temperature was 95° and 96° F.; 97° was reached forty-one times in eight months, 98° five times, and the temperature was above normal once only, when on November 2nd it was 99°. The note taken was: "Pain and swelling in throat inside and out, and on the following day fauces œdematous." This rise may have been due to some catarrh. I regard, then, this constant subnormal temperature as very characteristic and remarkable.

During the eight months she had fits once, on Feb. 22nd. The notes run thus: "Seems dull and heavy this morning, having had two fits yesterday. She stated that previously there was pain in her heart, her sight left her, and she felt faint." There was nothing unusual observed about the size of the heart and its action. The lungs were healthy, and no increase in size was found in liver or spleen. The digestive organs acted well. She never vomited, and had always a moist clean tongue. Her diet was a plain one always, and she was easy to please in this respect. Several medicines were given by mouth, such as diuretics, but without any result, and, as far as I noticed, she was not markedly worse at the end of eight months than she was at the commencement. Her mental state I cannot give better than as described by Sir W. Gull as that of "senile placid indifference." There was no syphilitic history. I have nothing to place on record of the pathology of this disease at present, but Dr. Ord has given the results of examinations in some of his cases, which terminated in the usual manner.

The case in point was shown, as occasion permitted, to several medical men, amongst whom were Mr. Hutchinson, Dr. Barlow, and Dr. Douglas Powell, who quite agreed with me as to diagnosis.

Carlisle.

A NEW SPLINT FOR THE ARM.

By NORMAN PORRITT, L.R.C.P. Lond.,
HOUSE-SURGEON TO THE HUDDERSFIELD INFIRMARY.

THE splint figured below consists of a flat piece of iron moulded at one extremity to fit the shoulder, and at the other to support the hand. It procures complete immobility of the elbow-joint, while possessing the following advantages over the wooden rectangular splints used for that purpose:—

The splint is not bandaged to the limb, and there is, therefore, no fear of tight bandaging and its attendant evils, circulation being in no way interfered with. There is sufficient space between the elbow and the splint to apply any dressings, antiseptic or otherwise, without removing the splint or disturbing the position of the limb. It acts as a sling by supporting the arm, and although movement of the whole arm is allowed, no movement at the elbow is possible.

In applying, the bandage is carried across the back over the opposite shoulder, round the front of the chest, again to the back, where it passes horizontally between the end of the splint and the bandage over the shoulder, once round the body, when it is tied behind. The end of the splint is thus prevented from moving outwards or upwards, and in practice it is found that the splint keeps its position. The splint is light and cheap, and can be made by an intelligent blacksmith, the length of the shoulder-piece being ten inches, of the shaft eleven inches, and the support for the hand measures six inches. If made of soft iron, the comparative lengths of the shaft and shoulder-piece can be altered by bending to suit different-sized individuals, and with a little padding for the hand and shoulder-pieces the splint is complete. Mr. A. Kempner, of Woodhouse-lane, Leeds, has very efficiently made most of the splints, and Messrs. Matthews Brothers, of Carey-street, are the London makers. It has been used by myself and others in nearly thirty cases: for example, after excision of the elbow, in cases of injury to the elbow, especially when attended with much swelling; in disease of the elbow, or where bony anchylosis is desired, and in fractures about the joint without much displacement—e.g., fracture of the head of the radius. It may be used in any case where complete immobility of the joint is desired. It is very comfortable, and patients who have worn it prefer it to others. In one case it was worn continuously for eight months, and after its use in a case of synovitis of the elbow, where the limb was bandaged to a wooden splint, an immediate improvement took place. It is not taken off at night, and when the shoulder-piece is concealed under the armhole of the waistcoat or other article of dress, it is hardly possible to see that the patient is wearing any apparatus, the hand, kept in position by a bandage carried over the wrist from side to side of the lower part of the splint, being the most prominent figure.

Huddersfield.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.

TWO CASES OF SARCOMA OF CHOROID; ONE OF TRAUMATIC HÆMORRHAGE INTO THE VITREOUS.

(Under the care of Mr. STREATFEILD.)

FOR the following notes we are indebted to Dr. Silcock, clinical assistant.

CASE 1. *Sarcoma of Choroid.* — J. B——, aged seventy, pilot, a hale old man, well preserved for his age, attended the out-patient department on Jan. 3rd, having lost the sight in

his left eye. In Nov. 1880, he accidentally discovered that he could not see things on his left-hand side; since then his sight had been gradually getting worse; but he had never suffered from any pain in the affected eye. With the exception that he was "gouty," his general health was, and had always been, excellent. Vision, normal in the right, amounted only to the bare perception of light in the left eye, and was entirely lost in the outer part of the left field. By direct examination, a round, slightly nodulated mass could be seen, growing apparently from the inner ciliary region, about as large over as a pea, and yielding a yellowish-red reflex. The cornea was clear, the anterior chamber of normal depth, and the pupil active. In the lens were a few incipient striæ. The globe was nowhere tender; its tension decidedly minus. The right eye, on examination, was healthy.

On the day of admission, Jan. 31st, the left eye was excised, care being taken to divide the optic nerve as far back as possible. With the exception of an attack of gout whilst in the hospital, the patient did well, and was discharged on Feb. 2nd. Dr. Brailey, curator of the museum, found that the growth was a soft, white, vascular sarcoma growing from the inner side of the ciliary body. The cells were round or oval, many drawn out into a short tail, having one, sometimes two, large oval or round granular nuclei.

CASE 2. *Sarcoma of Choroid.*—J. M——, aged sixty-nine, bootmaker, a well-nourished, healthy-looking man, was admitted on Feb. 7th. He stated that nine months previously he noticed that he could not see objects on his right-hand side. Latterly his sight had been getting rapidly worse. He had never had any pain in the affected eye. His health had always been good. On direct examination, a large mass could be seen springing from the inner ciliary region of the right eye, having much the same appearance and occupying a similar position to that described in the first case, but covering a somewhat larger area. The cornea, anterior chamber, and pupil were unaffected, a few commencing striæ being observable in the lens. The globe was not tender, its tension minus. The left eye, on examination, seemed healthy. Vision was good in the left, but almost totally lost in the right. The eye was excised, the optic nerve being "cut long," as in the previous case. The patient was discharged on Feb. 14th. Mr. Brailey reported that the growth was a sarcoma apparently starting from the choroid, but filling up half the eyeball, though not reaching to the optic disc. The cells were spindle-shaped, many tripolar, with large oval granular nuclei.

CASE 3. *Hæmorrhage into the Vitreous.*—A. G——, aged twenty-six, attended as an out-patient on February 14th, having lost the sight of his right eye. Four weeks previously whilst loading a gun it exploded, blowing his right thumb off. Half an hour afterwards he found that he could not distinguish anything with his right eye. He was taken to Guildford Hospital, where he remained some time. Four or five days after the accident he could count fingers held up in the lower and outer part of the right field. He had never had any pain in the damaged eye. When tested there was total loss of vision in the upper and inner part of the right field, light objects and shadows being distinguishable in the remaining portion. On the lower eyelid, close to the outer canthus, was the recent cicatrix of a small wound; the ocular conjunctiva in this region was a little injected. The cornea, anterior chamber, iris, and lens were unaffected. With oblique illumination a bright-red reflex was obtained from the lower and inner ciliary region; no normal fundus reflex elsewhere. The vitreous anterior to the extravasation was a little cloudy. There was no tenderness of the globe, its tension slightly minus. He complained of slight photophobia and lacrymation, but of no pain.

Remarks by Mr. STREATFEILD.—The three cases can only be considered in one group, inasmuch as they were attending at the Moorfields Hospital at the same time, and as they afforded an opportunity of some comparative observations to be made in practical diagnosis, which, as regards the intraocular sarcomata, is always a matter of urgency and importance, inasmuch as in such cases the eyeball must be immediately excised. In these two cases the eyes, it has been observed, were of less than the normal tension, whereas it is generally supposed that intraocular growths are accompanied by an increase of tension. This is true only of growths which have attained larger size than had either of these tumours; and that in the early stages the tension is, on the contrary, diminished may be due, as Dr. Brailey has remarked, to loss, by the growth, of some part of the secreting surface. In neither of these two cases had the tumour attained such a size as to distend the eye and cause the hardness of a later stage of the disease. Neither of the patients had had any pain, the media were clear, and the anterior chambers not shallow. By observation at first, with the naked eye, in ordinary daylight, an unusual light reflection from a part of the fundus could be seen in these cases, and much more distinctly seen, of an orange-red colour, with the concentrated light of the ophthalmoscope lens (oblique illumination). With the ophthalmoscopic mirror, looking obliquely, the tumours could be seen in profile, and retinal vessels on their convex surfaces. The retinæ were evidently detached and lifted up, but these were no ordinary detachments of the retinæ; their colour and dense opacity, their steep convexity, and the absence of any folds or creases on the surface of the elevations showed this. The ages of the patients excluded the probability of their being gliomatous growths. Nor could they be tubercular; they were too large, abrupt, and regular in shape, and, again, the patients were not young. Were they subchoroidal effusions? Excepting the consideration of their ages the same objections prevailed. What could these large, single, rounded, prominent elevations in the anterior part of the periphery of the fundus in each of these cases be but sarcomatous growths from the choroid or ciliary body? I thought they were both of the nature of sarcoma, and operated at once. The growths were not yet comparatively very large, and the optic nerves, cut across in the excisions, were healthy, so that the prognoses are good. The third of the three cases, herein reported by Dr. Silcock, seen at first by daylight with unaided vision, and without a knowledge of the history of the case, might have been also taken for an intraocular growth in that part of the fundus from which the sarcomata had their origin, a reddish glare being reflected from a part of the periphery of the vitreous chamber. But this appearance was not so exactly localised as it was in the cases of the tumours, and oblique illumination made the contrast with them greater, and the diagnosis certain. Instead of orange-red, with retinal vessels on the surface, it was uniformly of the colour of blood recently effused, partly occupying the back of the vitreous chamber, and partly in contact with the posterior lens capsule, irregular in outline instead of being rounded, and evidently concave instead of projecting forwards. It could be nothing but a blood-clot moulded to the shape of the surrounding parts. The man thought the thumb which was "blown off" struck his eye, but the correspondence of the small cicatrix of the outer part of the lower lid, and a little hard mass which could be felt in the centre of the corresponding patch of the injected ocular conjunctiva, which I took to be another scar of the same date, made me think that, not improbably, a shot had penetrated the lid, and also the sclerotic, and may be found hereafter in the eye, if it should become necessary to excise it. The tension was already deficient, the eye beginning to waste.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

CRUSHED FOOT; AMPUTATION; SALICYLIC-SILK DRESSING.

(Under the care of Mr. T. D. RANSFORD.)

J. G——, aged thirty-seven, admitted January 6th, had previously been a patient, under the care of Mr. Hamilton, with injury to the knee of the left leg, which resulted in a stiff knee. He was at work in the Mersey Steel and Iron Works, when a ton weight of iron fell on his ankle and crushed it to a pulp. After consultation it was determined to amputate the limb at the lower third, which was done with a long anterior and a short posterior flap, with Lister's antiseptic method, and dressed with gauze. The dressing was repeated every morning, on account of the extensive serous oozing soaking through all dressing, till some salicylic waste silk had arrived from Leeds on the morning of January 12th, when it was determined to try it, as recommended by Mr. MacGill. Temperature 100°; pulse 72. The wound looked well, the sides had been left open to allow of free drainage. One drainage-tube came away with the dressing, the other was left in. The wound was covered with the protective, and one or two layers of wet gauze were put over this, then about a quarter of a pound of the waste salicylic silk was picked out and spread over some gutta-percha, and the stump

laid in it. The whole was then bandaged to the limb by gauze bandage. This dressing was kept on till January 19th, seven clear days, the temperature being about 98° to 99°, and the pulse 70 to 76. No discharge showed through anywhere, and the dressing was only changed to remove the drainage-tube. The wound was dressed in the same way again, and, as the temperature and pulse were normal, it was allowed to remain on for ten days, up to January 29th, when the dressing was removed and the whole stump was found soundly healed, with the exception of two small points on each side, less than half the size of a threepenny piece; these were dressed with lint and boracic acid lotion, and took longer to heal than might have been expected, seeing the rapid progress made with the silk dressing. Sent to the country, quite well, on February 14th.

Remarks.—Although this case was not dressed from the very first with the silk dressing, yet, as far as it goes, it bears out all that Mr. MacGill has said in its favour in THE LANCET of January 1st, page 10.

HORNY TUMOUR OF LIP.

(Under the care of Mr. T. D. RANSFORD.)

For the following notes we are indebted to Mr. Ward.

R. B——, aged fifty-seven, admitted Feb. 16th into the Albert ward. Five years before a small white blister appeared on the middle of the lower lip at the junction of the skin and mucous membrane, and remained as such for two years, after which it began to grow steadily. The patient never noticed that it grew more rapidly at one time than another. He said that there never had been any discharge from it, and that the mass had always grown from underneath. During the last two years he had suffered from indigestion and attacks of bronchitis. No history of syphilis.

On admission he was in good health, but rather delicate-looking. A large mass extended nearly at right angles from the margin of the lower lip, its base occupying about an inch of the space of the lip, and protruded about three-fourths of an inch. At its free border it was divided into two unequal parts, the break having been caused by a removal of part of the mass by the patient. There was no hardened base, but the mucous membrane on the left side of it looked white. There was no enlargement of the neighbouring glands, but the patient stated that the glands under the jaw occasionally became enlarged and painful. The mass was quite painless at the free border, the patient being able to remove pieces of it with his finger nails. On compressing the base it was very painful.

The tumour was removed on the day of admission by cutting parallel with the lip with a pair of scissors, the white-looking mucous membrane being also removed and the skin and mucous membrane were drawn together, and the wound dressed with lint and boracic acid lotion. Discharged well five days later, the 21st inst.

Remarks.—The interest of this case arose from its growing from the usual site of an epithelioma, but the long history and the absence of any infiltration of the neighbouring tissues or glands were alone enough to establish its innocent character. The tumour, with the exception of a piece reserved for the microscope, has been sent to the Royal College of Surgeons Museum, Lincoln's-inn-fields. It was an ordinary papilloma.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Cylindroma of Popliteal Space.—Cancer of Rectum.—Villous Polypus of Bladder.—Cirrhosis of Liver in a Child.—Membranous Tracheitis following Tracheotomy.

THE ordinary meeting of this Society was held on the 19th inst, Dr. Wilks, F.R.S., President, in the chair. The chief communication was by Mr. Harrison Cripps upon "cancer" of the rectum; it was admirably illustrated by a large series of microscopical specimens, drawings, and diagrams. Mr. Godlee showed in the ante-room a curious case of arrested development of all the limbs.

Mr. BUTLIN exhibited a specimen of Cylindroma. It was the primary tumour removed from the ham of a boy aged nine, who had died from recurrent sarcomatous growths, which had been brought before the Society by Mr. Cripps (see THE LANCET, p. 213). The primary growth apparently sprang from the posterior ligament of the knee-joint; there was rapid local recurrence as well as widespread secondary dissemination, tumours being connected with the ilium, one of the ribs, and occurring also in the abdomen and pelvis. The microscopical characters of the primary tumour were those of cylindroma, composed of cylindrical, polygonal, and hexagonal cells within a hyaline matrix which apparently proceeded from change in the vessel walls. This form of new growth has been described in connexion with the skull and in the submaxillary and parotid glands; it has only once been observed in lymphatic glands. It belongs to the sarcomata, and in this case the recurrent and secondary growths were typical specimens of round-celled sarcoma. Mr. Butlin attributed the peculiar shape of the cells to their mutual compression and removal of intercellular substance.

Mr. HARRISON CRIPPS exhibited a series of specimens and drawings illustrative of the development of so-called Rectal Cancer. He found them all to conform to one type, the adenoid; the different appearances in various specimens representing different stages in its growth, which assumes two main forms—viz., one where it begins between the muscular and mucous coats, and, when ulcerating, makes an ulcer with a base formed by the hypertrophied muscular coat, and spreading at the margins; the other where it forms from the first a projecting tumour, clinically innocent. The latter is usually described as a papilloma, the former as an epithelioma, but they are both probably opposite types of the same disease. Section through a well-marked slowly-growing tumour shows spaces lined by cylindrical epithelium resting on retiform tissue. In the rapidly-growing tumour the same spaces and epithelium are present, but in a less defined form, both the cells and fibrous tissue being embryonic. The mode of development of these spaces is ascertained by observing the growing margin, which exhibits epithelial buds and processes arranged in dendritic fashion. These leaflike processes bend over and coalesce, forming the spaces lined by epithelium, which at an earlier stage was on the surface. Secondary outbuds of epithelium grow in these spaces by the proliferation of the cells. He had not been able to trace a direct continuity of growth between the Lieberkühnian follicles and surface epithelium and the deeper-seated new formation, a greater or less amount of retiform and fibrous tissue intervening. But in this intermediate tissue there is, especially near the new epithelial growth, a large amount of leucocytes, and their presence has suggested the view taken of the origin of the deep-seated epithelial new formation. The rectal mucous membrane is composed of cylindrical epithelial cells on the surface of retiform tissue, the number of cells on a given area (there are about 50,000,000 to the square inch) being very large, owing to the existence of numerous depressions of the mucous membrane the Lieberkühnian crypts. Each epithelial cell may be regarded as having an individuality of its own; its nucleus is capable of division and of passage into the subjacent retiform tissue. There is no morphological distinction between the epithelial nuclei and the retiform cells, and Mr. Cripps believed he had seen in some specimens an actual transition of the former into the latter. If such a transition or migration take place, the subsequent transformation of the retiform cells into deeper-seated epithelium is feasible—the nuclei being considered as embryonic forms of the surface epithelium, which subsequently develop into adult epithelium. Dr. Moxon's observation of cancer in the liver, secondary to rectal cancer, reproducing all the structures of Lieberkühn's follicles, is explicable on this hypothesis, which requires only the transplantation of lymphoid elements originally derived from epithelium to a distal organ. The various names applied to these rectal new growths, as sarcoma, epithelioma, &c., are so far erroneous that they are only descriptive of particular parts of the growth—the nuclear or immature part, the epithelial or adult parts, &c. As to the cause of this malignant disease, it might be supposed that an obstruction of the lymphatics would cause a tumour to develop, hindering the removal of the potential epithelium, but that view does not account for the dissemination of the growth. It must be assumed that the cells in the retiform tissue cannot find their way into the lymph stream, that being fixed they develop into epithelium in the deep tissues, and give rise there to a formation reproducing the characters of gland tissue.—Mr. DORAN pointed out that the intestinal epithelium was rather shed than reabsorbed, and that it was more probable that the lymphoid

cells should be the progenitors of the epithelial cells than the converse; and that, under morbid influences, they should undergo that transformation before coming to the surface. Such a view explains the origin in deep tissues of cysts well lined with epithelium. In the ovary such cysts may be derived from the epithelium of the tunica albuginea and Graafian follicles; but the ovary has the power of forming any tissue (e.g., in dermoid cysts) without any impregnation.—Dr. THIN said that Mr. Cripps, by his careful research, had done for cancer of the rectum what Thiersch had for cancer of the lip, and Waldeyer for cancer of the breast. But his valuable facts were supplemented by theories to which he (Dr. Thin) could not assent. This was the third occasion on which he had heard the doctrine put forth that connective tissue could be formed from epithelium. Dr. Saundby had applied this view to the histogeny of granular kidney and cirrhosis of the liver. It is no sufficient reply that this contradicts our knowledge of the embryonic conditions; but in neither instance can any appearance be found suggestive even of the probability that there is a formation of connective tissue from epithelium. No doubt in many specimens the nuclei were visible and not the cells which contained them; but the explanation that the epithelium sheds its nuclei is purely hypothetical, and depends upon the interpretation of the specimens given by the observer. He himself held the view that leucocytes in contact with cancerous epithelium became converted into such epithelium, and that generalisation is accounted for by the transportation of such leucocytes by means of the blood-stream to distant organs, where they give rise to new development of cancer cells.—Mr. GODLEE thought great care should be exercised before tracing a connexion between connective-tissue cells and epithelium. The term "cylindroma," employed by Mr. Butlin to a tumour which appeared to be a round-celled sarcoma, was confusing, as implying an epithelial or cancerous structure; whereas the growth in question seemed to be one of those sarcomata which have fibrous spaces like a carcinoma, but which in their recurrences in other parts have purely sarcomatous characters.—Mr. BUTLIN said he showed the specimen as an example of what had been called "cylindroma;" which is, however, a round-celled sarcoma. It had no relation with the columnar-celled epithelioma which had sometimes been spoken of under the same name. He could not admit that Mr. Cripps had done for rectal growths what Thiersch and Waldeyer had for those of the lip and breast. Waldeyer traced the origin of mammary cancer immediately from the epithelium to the ducts; and in all Thiersch's plates the surface epithelium could be seen extending downwards in direct continuity with the new growth. In neither case had there been any necessity to adopt such a theory as that given by Mr. Cripps. Dr. Thin appeared to have changed his views as to the part played by the epithelium, which a few years ago he described as not doing anything except dying out. There was one link wanting in Mr. Cripps's argument; he had not been able to show any transitional form between the nuclei and the new epithelial cells.—Dr. THIN was not aware that he had changed his views; he still held that epithelium does not beget epithelium, but that the dying cell gives out an influence which causes leucocytes to be transformed into epithelium.—Mr. R. W. PARKER asked whether Mr. Cripps really held that cancer could be developed primarily from structures which were originally formed from the mesoblastic elements of the ovum. Such a view would be contrary to the most modern doctrine which accepts as correct a purely embryological classification of all morbid growths. He (Mr. Parker) had recently examined a tumour from the humerus, which was said to be a primary one. It very closely resembled a cylindrical epithelioma of the rectum, such as those shown to-night. On making subsequent inquiries, it turned out that the patient had been ovariotomised some years previously. He was inclined, therefore, to the belief that the ovarian tumour was the primary lesion and was a cylindrical epithelioma, and that the growth in the humerus was a secondary manifestation. He was strengthened in this view by the examination of an ovarian tumour removed by Mr. Thornton, which on section was found to consist of a similar cylindrical form of growth. The questions, therefore, arose, were the present views regarding the development of the ovary correct—viz., that the ovary is formed entirely of mesoblastic elements, or must we give such a disease, when it recurs in the ovary, some other name than cancer; or must we give up the embryological doctrine of tumours, which teaches that cancer cannot occur primarily in tissues of the connective (mesoblastic) series. For his part, the embryological doctrine held good in nine-tenths of all the cases, and he believed, as our knowledge of embryology improved, that it would be found to hold good in all cases, and that it might even be possible to correct our physiological views by the aid of pathological specimens such as the one he had just alluded to.—Mr. CRIPPS, in reply, said that a gradual investment of the nuclei by protoplasm, on their way to become epithelium, could be seen in some specimens, especially in the adipose tissues. The lymphoid cells between the fat cells could be seen of increasing size, gradually displacing the latter. He felt absolutely certain of the conversion of lymphoid cells into epithelium, and he pointed out that in the liver not only do these cells develop into epithelium, but form the definite tissue of a Lieberkühnian follicle, and in that fact the view that they are direct offspring of the original cells of the rectal mucous membrane receives confirmation.

Mr. TREVES showed a specimen of Villous Polypus of the Bladder from a woman forty-eight years of age, who died of pyloric cancer, and had been subject to hæmaturia for fourteen years. The polypus was attached midway between the summit of the bladder and the urethral orifice, and had a flocculent appearance. Sir H. Thompson had made a distinction between the hæmaturia due to cancer of the bladder and that due to villous disease—viz, that in the former it is intermittent, and in the latter constant, but not profuse. However, in this case the hæmaturia was not only intermittent, but often very severe, so that large clots were passed. The hæmorrhage, when present, was also increased by the slightest movement.

Dr. SEYMOUR TAYLOR showed a specimen of Cirrhosis of the Liver from a child nine years of age, who had been under Mr. Osborn's care for a congenital hydrocele of the left side. Death took place rather suddenly. The child had been subject to epistaxis and morning sickness; it had never been jaundiced, and there was no history of syphilis or of spirit drinking. After death there was much ascites, slight œdema, no sign of intestinal hæmorrhage, and no evidence or appearance of inflammation. The liver had the characteristic hobnailed character, with general capsular thickening. The spleen was large and firm. Dr. Murchison records a case in a boy nine years of age, where there was evidence of alcoholism; and Dr. F. Taylor last year showed a specimen from a child in whom the history was negative.

Dr. CARRINGTON exhibited a recent specimen of Membranous Tracheitis, following an impacted nutshell in the larynx. Tracheotomy had been performed. The case was not exposed to the diphtheritic poison. The nutshell was lodged below the vocal cords, and its presence did not apparently give rise to the membranous inflammation which started from the tracheal wound.

The following specimens were exhibited by card:—Fracture of Spine, by Dr. Carrington; Hygroma of the Neck, by Mr. Treves; Congenital Malformation of Foot and Hand (photographs), by Dr. Mortimer Balding; Stenosis of Tricuspid and Mitral Valve, by Dr. Burnet.

CLINICAL SOCIETY OF LONDON.

Cross-legged Progression. — Excision of the Tongue.

THE ordinary meeting of this Society was held on the 22nd inst., T. Smith, Esq., Vice-President, in the chair. It was marked by a prolonged and interesting discussion upon excision of the tongue for cancer, arising out of a paper read by Mr. Stokes of Dublin.

Mr. W. J. TYSON (Folkestone) read notes of a case of Cross-legged Progression. J. W——, aged sixty-seven, a waggoner for many years, at the age of fourteen fell on a barn floor and injured the right leg. This accident kept him in bed for four months. He says from this time he could never straddle a horse, and always walked lame. Sixteen years ago he began to have difficulty in keeping up with his horses, his legs becoming more and more approximated. The last fifteen months he has walked cross-legged. This latter position is maintained day and night. With some force the legs can be unlocked and brought parallel, but not without causing pain. There is only the slightest movement in each hip-joint; the surrounding bone appears thickened. When he gets up in the morning, or when he starts to walk, a

crackling noise is distinctly heard. Both extremities are extremely adducted and everted; the heels are far apart and the toes close together. The legs cross one another just above the knee-joint, the right being in front. The hip-joints are the only ones at all affected in the body. Both knee-joints *can* be fully flexed, but these are scarcely moved except in sitting or lying down. He can walk with two sticks very slowly and for a short distance, but he nearly always uses two crutches. In commencing to walk, the crutches are first placed forwards, and then the body is thrown on to them; the lower part of the spine appearing to take—in fact, it really does take—the place of the hip-joints; there being hardly any movement in hip or knee on either side, the body is thus raised by the crutches and swung forwards. The absence of knee movement in progression constitutes a difference between the present case and those exhibited by Mr. Lucas, in one of which the knee movement was considerable. The following description best explains the cross-position of the limbs. In the original accident some injury to the right hip-joint occurred, and during its repair adduction of the right leg took place. This condition then would naturally account for the difficulty he had as soon as he was able to get about of sitting across a horse's back. The right hip became anchylosed, and as time went on, and the right leg became more adducted, there was a tendency for the left one to pass across to the right side in order to maintain equilibrium, and as movement in the left hip-joint became less, so anchylosis would gradually come on here, and thus, after a time, both hips would become fixed, the movements lost in these joints being supplied to a great extent by a complementary movement occurring in the lower part of the spine. The cause of the cross-position of the legs was discussed when Mr. Lucas brought forward his two original cases before this Society on Oct. 22nd of last year, but more fully by him subsequently in a paper in THE LANCET in the following December. Three theories were mentioned in Mr. Lucas's latter communication—(1) the adduction, (2) the gravitation, and (3) the optional, or when the leg on the same side of the injured hip is thrown on the limb of the opposite side for the purpose of rest and relief of pain. It seems that adduction of the limb must be the commencement of all these cases, it making no difference whether the adduction is at first produced optionally, or whether it comes on in the coarse of the hip-joint disease, and providing that the limb is sufficiently and permanently adducted so as to interfere materially with progression, the other leg will naturally be passed across its fellow to keep the body in the erect position, and also as the easiest way for walking. In the commencement of these cases there is probably the usual inversion accompanying the adduction, but as soon as the patient attempts to walk this is slowly changed into eversion, as this latter position allows greater scope for the movements of the knees and ankles.—Mr. CLEMENT LUCAS regarded these cases as little more than pathological curiosities; he had only heard of two other cases besides Mr. Tyson's since he drew attention to the subject, and he thought the condition must be very rare and invariably the result of double hip disease. He had not committed himself to any theory of its production, but agreed with Mr. Marsh that adduction was the main cause. Mr. Croft's view could not hold. He himself had thought that the position of the limbs was at first optional in order to relieve pain, and that it increased because the knees were used in progression. His cases showed that the disease might be of a different character, one of them being a man with osteo-arthritis of the hip, and the other a lad with ordinary pulpy degeneration and dislocation.—Mr. HOWARD MARSH said the condition consisted mainly in adduction and fixation of the limbs, which would not occur unless both hip-joints were diseased. Cases of progression with considerable, but not such extreme adduction, were more common; indeed, in every case of chronic hip disease there is very marked adduction, not to the extent of producing the cross-legged position, but compensated by the up-tilting of the pelvis on the affected side. He did not understand in Mr. Tyson's view how the opposite hip could become anchylosed without having been previously the seat of disease.—Mr. T. SMITH agreed with Messrs. Lucas and Marsh, because certainly there is adduction in old hip disease, and yet the cross-legged position is rare. It was difficult to see how the cross-legged progression could occur unless both hips were diseased, and if they are diseased, its non-occurrence was certainly remarkable.—Dr. WILTSHIRE inquired whether the affection might not be neurosal, and related the case of a lady who, after a slight blow on the hand, became the subject of a condition attributed to an ascending neuritis.—Mr. TYSON, in reply, said that the original accident occurred many years ago. If adduction be extreme, then the cross-legged posture must occur. The patient had only walked in this way for the past eleven months, and the peculiarity of the case was that he made no use of his knees in progression, obtaining all his movement from the lower part of the spine.

Mr. WM. STOKES (of Dublin) read a paper on Excision of the Tongue. He commenced by alluding to the change that surgical opinion has lately undergone in reference to the merits of excision of the tongue, and mentioned the views of Professor Gross and Mr. Collis on this subject. The particulars of six cases in which the writer had excised the tongue were then briefly stated, in which relief from suffering caused by enlargement of the tongue, difficulty of deglutition and articulation, discharge and pain, was obtained in all as an immediate result of the operation. In two of the cases a considerable time—twenty-two months and eighteen months—elapsed without any recurrence of the disease; in two others three months and four months elapsed; in one the patient was lost sight of immediately after the wound healed, and in only one of the cases was almost immediate return of the disease observable. Performing the operation at an early period of the development of the disease, if possible before glandular complications, was strongly advocated, and Sir J. Paget's views stated, as regards the small risk attending the operation. The question of unilateral or bilateral ablation was then discussed, and the advantages of the latter pointed out. The question of what is the safest and best method of excision was then considered, as well as the two special dangers of the operation, hæmorrhage and septic complications. The author observed that removal of the tongue by a cutting operation is not only more liable to be followed by hæmorrhage, but also by septic infection, the outcome of which latter is in a large number of cases either pulmonary gangrene or septic pneumonia. These are not observable at all to the same extent in the cases operated on by the écraseur. In proof of this, the statistics of Dr. Scheffer and Mr. Collis were considered, in the former of which it was found that the percentage of mortality from septic causes in the cases operated on by incision reached the startling figures of 60, and in those of Mr. Collis 61. Mr. Barker's cases were also alluded to, but the number of cases (3) operated on by incision, in which there were no septic consequences, was not considered sufficiently large to materially affect the conclusions arrived at. The disadvantages of certain of the écraseur operations were then pointed out, and the author concluded by describing the method of operating he preferred. He commences by transfixing the cheek at a point corresponding to the last molar of the lower jaw, and makes an incision downwards and forwards towards the angle of the mouth, terminating a few lines above it. All bleeding vessels being secured, and the parts retracted, a ligature is passed through the tip of the tongue to facilitate the drawing forwards of the organ by an assistant. This being done, a straight Liston's needle, armed with a double strand of carbolised silk, is passed through the base of the tongue at a point behind the foramen cæcum. In front of this the chain of an écraseur is passed round the tongue, and the organ gradually severed. This portion of the operation is done very slowly, taking from thirty-five to forty-five minutes. The author never witnessed in any of his cases any secondary hæmorrhage, immediate or remote. The wound in the cheek is then brought together by a few points of interrupted suture. The free ends of the strand of silk passed through the base of the tongue are then fastened temporarily, by adhesive plaster, to the side of the cheek or forehead. This double thread, which in the event of secondary hæmorrhage or traction, would be of much assistance in enabling the surgeon to draw forwards the base of the tongue and secure the bleeding vessels, is removed usually on the third or fourth day after the operation. The author believed that, by the use of the écraseur employed in the manner he described, coupled with antiseptic measures during the healing of the wound, the operation is attended with little pain, with the minimum of risk as regards either primary or secondary hæmorrhage, or those septic troubles which, after all cutting operations, are so fruitful a means of raising the mortality attending this important operation.—Mr. HEATH said that in this country the tongue was more freely operated

upon than was assumed by the author. As to the question of growth, after removal, in Mr. Barwell's case there was a considerable increase; and in his own case, where more than half was removed, the stump of the tongue, nine years after, appeared to have enlarged. The mode of operating was different in different cases. He had now entirely given up the galvanic écraseur, in favour of the chain écraseur, and had never found occasion either to pierce or incise the cheek; for, by bending the écraseur and pulling forwards the tongue, the instrument could be applied far back. Whether a unilateral or bilateral operation should be performed depended on the merits of the case; and he agreed with Mr. Baker that a unilateral operation should be done when necessary; it also enabled the surgeon to examine the two halves of the organ when split in the median line.—Mr. MORRANT BAKER advocated the unilateral method when the disease was sufficiently limited. The median incision avoided the severance of arteries and rendered the detachment of the organ more easy, and it allowed of removal of the other half if the disease were found to encroach near the median line. He thought division of the cheek might be more often done with advantage, especially when the disease extended far back. It allowed also of a better control of hæmorrhage. He thought the tongue could not grow after incision, but that an apparent increase in size might result from the contraction of the cicatrix. And as to the retention of speech, it must be remembered that the tongue was not wholly removed when only the portion in front of the foramen cæcum was excised. When completely removed the mouth has a very different appearance; there is a large hollow in the place of the root of the tongue, and the arches of the palate are approximated. Mr. Gant had recently exhibited a case of nearly entire removal, which had been effected much on the plan adopted by Collis. That patient could hardly articulate. Mr. Baker had not himself found tracheotomy necessary; but in a case where he assisted, tracheotomy had to be done on account of blood flowing into the trachea. A fresh hæmorrhage occurred just before the removal of the tongue was completed, and the blood flowed more readily into the trachea than when there was no tube in it. Of course it might be said that the pharynx should have been plugged.—Mr. MACCORMAC pointed out that the trachea itself might have been plugged. He asked Mr. Stokes what measures had been taken to remove the diseased glands, which occurred in some of his cases. Permanent success depended upon this. Any modification of the operation, by splitting the cheek, &c., was justifiable if it facilitated the removal of the diseased tissues in the floor of the mouth. The difficulty of removal of infiltrated glands was considerable, and he should like to know whether the plan followed by Mr. Stokes enabled him to effect their removal. He was surprised to learn that an operation producing a crushed and bruised surface (as did the écraseur) is followed by less risk of septic processes than a simple cut wound. However, the fact remained. He had once or twice divided the tongue without any hæmorrhage of moment occurring. — Mr. BARKER said that the list he had furnished to Mr. Stokes somewhat altered the relative rate of mortality after different methods of operation. At University College Hospital, from 1871 to 1879 inclusive, there had been 51 cases of lingual epithelioma, in 34 of which excision was performed. Eleven of these cases died in consequence of the operation — 5 from septic pneumonia, 2 from septic bronchitis, 2 from septicæmia, 1 from pyæmia, and 1 from œdema of the glottis. A large proportion thus died from septic causes. Of these cases 25 were operated on by the galvanic écraseur, with 9 deaths; 7 by the wire écraseur, and 1 death (from pyæmia); 3 by the knife, no deaths; and 1 by ligature, fatal (from septicæmia). These figures, although few, condemned the galvanic écraseur. Did Mr. Stokes include the galvanic écraseur in his statistics. Mr. Barker agreed with Mr. MacCormac as to the preference to be given to the knife. The tongue should be split in the median line, and the base cut across, this measure allowing of the ready control of bleeding vessels and of their ligature in the ordinary way, and was far less open to danger of septic trouble than after crushing. Tracheotomy was sometimes called for in cases where much hæmorrhage was to be anticipated, or the diseased tissues were of wide extent. The risk from hæmorrhage could then be met by plugging the trachea, or by means of a sponge in the pharynx. In three cases he had no trouble in retaining a sponge there; but if the trachea were to be plugged Trendlenberg's tampon should be used, care being taken in its inflation, since, as Dr. Sémon had shown, its over-inflation caused dyspnœa.—Dr. DOUGLAS POWELL asked Mr. Barker what was meant by "septic" bronchitis and "septic" pneumonia. Did he imply that in such cases there was general septic infection; and were other organs affected, as in such septicæmia. If there were only bronchitis or pneumonia, that might possibly be produced by the passage of irritant matter into the bronchi or lung, and would be met by measures preventing such gravitation.—Mr. T. SMITH asked whether Mr. Stokes made any incision in the sublingual tissues. He believed that only a portion of the tongue could be pulled forward, and that the organ could not be wholly removed unless the subjacent tissues were divided. As he understood it, the septic pneumonia of these cases is produced by blood &c. trickling down the air-passages. The discharges were more copious after the use of the galvanic écraseur, owing to the slough it produces.—Mr. MARSH, in two or three instances of unilateral excision, had been disappointed with the result, the longitudinal cicatrix holding the tongue down, and the muscles of the remaining half turning it over, a condition giving rise to discomfort. It was plain that opinion was adverse to the galvanic cautery. He was acquainted with cases of secondary hæmorrhage following its use, and with one or two of fatal complications. By first dividing the muscles attaching the tongue to the lower jaw the base of the epiglottis can be reached. The experience of St. Bartholomew's Hospital did not accord with the statistics given by Mr. Barker.—Dr. COUPLAND urged Mr. Barker to reply to Dr. Powell's question. In post-mortem examination of cases of cancer of the tongue, foci of broncho-pneumonia were common, and to be attributed, not to septic infection in the ordinary sense, but to the inhalation of irritant and putrid materials.—Mr. BARKER said the question was an important one. No doubt sometimes there were pulmonary abscesses of truly pyæmic (embolic) kind; but the lungs might be also affected by blood trickling down the trachea during the operation, or fetid discharges similarly passing; also, he believed, by the simple inhalation of very acrid emanations from these wounds. In one instance the house-surgeon and nurse in attendance on the case became affected with sore-throat. He did not think these different modes of lung complication should be confused.—Dr. POWELL said the point was one of great practical importance. He had asked if there was any evidence of general blood-poisoning to which the lung disease was secondary. If in all such cases the infection was local, then a remedy might be sought in antiseptic inhalations and in enforcing a prone position, so that the blood and discharges might not pass down the air-passages.—Mr. BARKER said that in one case there was distinctly a general pyæmia, developing long after the operation, with abscesses in the liver and in the vicinity of the kidney, as well as the lung. In the other cases there was no involvement of other organs.—Mr. STOKES, in reply, said that he had not included Mr. Barker's statistics in his lists, but he had made a percentage mortality of about sixty in the cases of simple excision by the knife; and he admitted that it was remarkable that there should be apparently less danger from septicæmia in such cases than in those treated by the cautery. He was glad to find Mr. Marsh preferring the bilateral method, and could endorse what he had said as to the greater inconvenience both as regards deglutition and articulation resulting from one-half of the organ being excised than when both sides are removed. He knew of one case where the patient came to have the other half removed because of the difficulty in articulation and because it kept getting between his teeth. He was also pleased to hear Mr. Barker suggesting a preliminary division of the cheek, which greatly facilitates the operation. He had performed division of the sublingual tissues in such cases where the thickening and enlargement of the tongue called for it.

MANCHESTER MEDICAL SOCIETY.

AT the last meeting of this Society a number of very interesting cases were brought forward, notably one of Lymphatic Disease, affecting the left leg of a young girl, and causing great hypertrophy of the limb, shown by Mr. Walter Whitehead. Dr. Leech exhibited a case of Alopecia universalis, occurring in a man aged forty-one, the most careful examination of whose whole body failed to discover the slightest trace

of hair. Dr. Helme showed a Sarcomatous Tumour of the Testicle, weighing twenty pounds, which he had removed post mortem from an old man aged seventy-one, who in life had declined operative interference. Dr. Lloyd Roberts exhibited two Ovarian Cysts, one of gigantic size, weighing thirty-four pounds, and the other, which was remarkable as being the smallest ovarian tumour he had ever removed, weighed five pounds; the woman from whom it was removed was only twenty-one years of age. Both patients are convalescent. Dr. Ransome read a very painstaking paper on Characteristics of Chest-movement in Chronic and Acute Cases of Phthisis, and their bearing on prognosis, illustrated by numerous diagrams, enlarged from tracings taken by the stethograph.

THE GENERAL COUNCIL OF MEDICAL EDUCATION & REGISTRATION.

THE General Medical Council met on Tuesday last, April 26th, at 2 o'clock, Dr. Acland, President, in the chair. Four members were absent—Dr. Rolleston, Dr. Banks, Dr. Quain, and Dr. Haughton.

Dr. Alfred Henry McClintock was introduced by Mr. Macnamara as Crown Nominee for Ireland, for five years from March 2nd, in place of Dr. Hudson, deceased.

Mr. James Spence was introduced by Mr. Turner as representative of the Royal College of Surgeons of Edinburgh, for three years from Feb. 17th, in place of Dr. Andrew Wood, deceased.

The PRESIDENT delivered the following address:—

The business for which it has been thought desirable to summon the Council for this its thirty-second session need not detain it long. In the same way that it was necessary that the Council should meet last February to make legal the issue of a correct Dentists' Register, and only thus to avoid inflicting hardship on members of the dental profession, possible injury to the public, or violation of the Dentists Act, so now it has appeared to members of the Council and myself of urgency to consider without delay certain questions affecting the education and examinations of schools and colleges throughout the country. In consequence of the funeral of the Earl of Beaconsfield, which takes place this afternoon, it might have been in accordance with public sentiment that our proceedings should have been this day deferred. But seeing that the deceased statesman has left the most express desire that his obsequies should be conducted privately, and not in the metropolis, it has appeared more in harmony with his desire, and more agreeable to the Englishman's sense of steady duty, to proceed with the work and the arrangements of the day, undisturbed by any thoughts but those which hover about the close of a long life that has largely influenced our nation and age. And let it be added in this Council, that it has good reason to express its gratitude for the steady and courteous manner in which, under circumstances of much difficulty, the Earl's Government, through His Grace the Duke of Richmond and Gordon, laboured to carry through Parliament (and, on two occasions, successfully through the House of Lords) Bills for the settlement of vexed questions in regard to medical education and examination, the rights of colonial practitioners, and several other particulars. I need only refer to the Act for the Education and Registration of the Profession of Dentists, which, like every such initial measure, presented complications that could not be at once removed. It is to be regretted that the time which seemed suitable to many has not been so to all. The Council will remember that the meeting in this Easter recess was much urged by Professor Haughton, a proposal to which reference will hereafter be made. It has indeed been pressed upon me by more than one person whose opinion I value, that it is not desirable, pending the Report of the Royal Commission, which is shortly to meet, that the Council should continue the educational work already in hand, or initiate any other matters, however urgent. Had I acted on this opinion I am satisfied I should have incurred, and justly, the displeasure of the Council. It is true enough that for ten years the Council has been hampered, and the medical profession disturbed by agitation, which had no real bearing upon duties imposed on the Council by the Medical Act of 1858, except so far as to keep up a constant feeling of uncertainty as to the nature of the examining boards of the future. This circumstance made it impossible to bring to a successful termination questions which had long occupied the attention of the Council and of the licensing bodies throughout the country. Neither this agitation, nor the expectation of a more permanent settlement of those questions through an investigation of the working of the Medical Acts by a Royal Commission, would now justify us in causing suspense or uncertainty as regards educational regulations in schools frequented by youths destined for the medical profession, to any greater extent than may be absolutely necessary. It will be well for the Council to bear in mind on the present occasion the report which was presented by Dr. Storrar so far back as August of the year 1859, on the subject of general education. The principle which pervaded that report was that the superintendence of the general education of the medical profession should be left to the great national educational bodies, meaning thereby the universities of the United Kingdom. This principle was based upon the conviction, first, that intellectual fitness and a good general education were of primary importance in order to enable youths of average intelligence to master the facts and laws of physical science, and of the principles and practice of medicine directly and indirectly connected with them; and, secondly, that in the then transitional state of education in Europe, and notably in Great Britain and Ireland, it was of consequence to the future culture and social status of the medical student that his education should not be inferior to, but as far as possible the same as, that of the educated classes of society. Upon the whole the Council has never, in the twenty-two years that have since elapsed, wavered in this opinion. It has persistently maintained, time after time, that a sound education in arts should of necessity precede the entrance on professional studies, and that the purely medical institutions should neither conduct, nor be judges of, the nature and extent of attainments in preliminary education. This opinion, however, did not and could not exempt the Council from the obligation to see that the conditions which its members, as representative professional men from every part of the country, held to be desirable were fulfilled by the Examining Boards. Of these Boards no fewer than seventy-three, besides the "abiturienten" examinations and "entrance examinations" on the Continent are at this moment on the list recognised by the Council. It became accordingly, in the judgment of the Council, its duty to determine the subjects which should be compulsory in any arts examination for medical students. The Council issued last year a notice embodying its then conclusions, pointing out to the Arts Examining Boards the subjects which they desire to be comprised in the preliminary education of a medical man, and without a knowledge of which students should not be allowed to enter on medical study. This list of subjects is to be in force at the end of the present year. It is the effect of this notice to which your attention has to be directed on the present occasion. There can be no doubt that the list is a good one, and that it implies a great advance in the educational arrangements of schools, and also in the requirements from the students. But you will have evidence brought before you that it is not easy and perhaps not possible to carry out the scheme in its entirety on so short a notice. The arrangements for examination now existing throughout the country are extensive and elaborate, and cannot at once be altered, even if should be considered desirable that they should be altered. Nor can the Council compel the alterations. And further, it is to be admitted that there are various ways of forming a true and firm character in a youth, and of training him to habits of observation and accuracy. To specialise our young medical students into a class at a very early period, so as to remove them from the best devised methods of higher education, whatever that may be in the judgment of the educators of the nation, would in the end prove disastrous to the medical profession. The specialisation asserts itself in most men with sufficient force at a later period of life. This subject is to some extent further complicated by the expressed wish of the Council that there should be a special examination in the rudiments of natural science—physical, chemical, and biological—before the stu-

dent enters on the purely medical curricula. On this proposal there have been received, from the various medical licensing bodies, communications which form the subject of a special report from the committee appointed for the purpose, and therefore it would be out of place here to comment upon them in detail. But I cannot forbear from stating at once that several of the answers show the risks that would attend any instant attempt at coercive regulations in this matter. The Council may have to consider whether it would be expedient to defer the exact requirement of the Council's list of subjects proposed for general education till after the report of the forthcoming commission. This might be desirable in the true interests of the schools for the purpose of securing the steadiness and uniformity in the examinations. The report of the Executive Committee dealing with the letters from Cambridge that are presented to you to-day, suggests even more than this, as regards the local and other examinations of the two old universities. But this does not meet the whole difficulties of the case. Other bodies besides these may send in similar applications. And it might be imprudent to guarantee the same confidence in all applying Boards. These and other considerations must make all wish that the Royal Commission may quickly and with completeness settle what changes, if any, are to be made in the Examining Boards of the kingdom; and to what extent it is desirable that the Central Council should be empowered to enforce detailed regulations on all local institutions. Letters of importance from Mr. Tomes and others will be laid before you. In the construction of the Dentists' Register a difficulty arose with regard to the real fitness of many persons who professed to be in practice and to possess a legal qualification as dentists. This became at once a question of legal interpretation of an existing Act rather than one which this Council has at heart —namely, the education and professional character of registered dentists. When the Council met in February for purposes connected with the Dentists Act only, they decided in accordance with the legal opinions laid before them, giving their judgment upon the facts as furnished to them. One of the results at which the Council had previously arrived was to exclude from the Register all titles other than those definitely stating a qualification in dentistry. It is not to be wondered at that persons such as Mr. Tomes, a Fellow of the Royal Society and an eminent member of the College of Surgeons, and persons who are Fellows of the Royal College of Surgeons, should resent as a hardship, and even an injury, that a title so honourable as a Fellow of the College of Surgeons of England, implying without question surgical knowledge and education of real value for the purposes of the higher problems of dentistry, should not be entered in the Dentists' Register. On the legal advice we have such knowledge, and such titles are considered not to be higher in respect of dentistry in the terms of the Act. If this be so, it is certainly a question for argument whether the Act should not be amended. I do not presume to offer the opinion that the Council would act illegally if it inserted such titles as higher titles, nor to say that a penalty would accrue if it did. The value of so-called higher titles has been made the subject of a question in the House of Commons, and will doubtless be considered at some future occasion. A motion will be brought before you on this subject so far as it affects the Dentists Act. Cases of alleged misconduct in a professional respect will be brought before you for decision in the course of the meeting. One of them, that of Dr. Levenston, asks to be heard by counsel; it has been of long standing, and should for obvious reasons, if possible, be disposed of. Since the lamented death of Dr. Andrew Wood, the Executive Committee has considered some of the arrangements according to which, from usage, the business of the Council has been hitherto conducted. Were it not for the appointment of the Royal Commission, it would be prepared to suggest changes which would tend to diminish expense and facilitate the work of the Council, both at its meetings and in the intervals of its business. Some of these have reference to the times of meeting of the Council and of the Executive Committee, to the constitution and duties of Standing Committees, and to the powers of Committees generally—all matters already brought to your notice by Mr. Teale and by others. I do not venture to indicate what an experience, derived from the whole history of the Council, has taught in these directions. There are few here who must not have often deplored the loss of time and the abstraction from their real duties which Parliamentary agitation, apparently attractive to some minds, has caused within the last ten years. It has rendered a fixed time of meeting, whether for the Council or for the Executive Committee, virtually impossible. It has forced the Council to spend whole meetings in considering whether improvements could be made in machinery, when they would have endeavoured to work the machinery which Parliament had made, and it has practically had the effect, through long delay and by reason of deferred expectation, of throwing several institutions charged with the medical education of the country back upon themselves, and has checked mutual co-operation, which ten years ago seemed not only possible, but certain. It will hereafter be a matter of astonishment that two Governments so powerful as those of Mr. Gladstone and Lord Beaconsfield should, after much labour and full mastery of the subject, have carried Bills in three successive years—1871, 1877, 1878—through the House of Lords, and should not have thought it well to risk opposition in the House of Commons to carefully considered Bills which gave increased powers, and rectified anomalies at home and in the colonies. To one other subject only would I draw your attention—the visitation of the examinations that is now in operation. You need not be reminded of the valuable Reports which were prepared on the condition of all the examinations throughout the kingdom in the years 1865-6, 1868, 1873-5, nor of the reports on the state and needs of education from the principal teachers in all departments of medical science and practice in the chief schools of the country.[1] The Executive Committee, acting on your instructions, has made arrangements for the visitation this year of the Colleges of Physicians and of Surgeons in England, in Scotland, and in Ireland respectively. The visitors are Mr. Teale, Crown Nominee on the Council, Professor Gairdner of Glasgow, and Professor Stokes of Dublin. These gentlemen have undertaken that which the Committee could hardly venture to ask, to visit all those bodies in the course of the present year, and to state a full and careful educational report—the conclusions at which they arrive on the state of medical education, actual and comparative, according to the data which are obtained through their inspection. It would not be well here or now to speak of the qualifications of these eminent persons, of the debt which the Council and the public will owe to them, nor of the value which will be attached to their services. The comparison between England, Scotland, and Ireland, made by the same visitors, will be far more instructive than a separate inspection by different visitors could have been. And the value will be further enhanced by reference to the opinions of the numerous teachers recorded in 1869, as showing the progress of ideas, the results of experience, and the nature and extent of alterations that are needed. It is not possible to forecast what changes are yet needed in teaching so intricate a branch of knowledge as the science and practice of medicine. Pessimists no doubt love to dwell on failure; but those who know the high character of a large proportion of our modern medical students, the immense progress of medical science, whether in the prevention, or cure, or alleviation of disease, in the last twenty-five years, are not likely to despair of the future, or to doubt that the foundation has been laid for successful and united effort towards greater improvements and disinterested work for public good. These are shown in the progress of gained scientific truth by more logical methods of thought, and by more widely diffused skill, by reason of better general education in the application of both to the needs of common life. It remains for me only to add a few words in reference to the subject of "Conjoint Boards," or "State Examinations," a subject which, at the present moment, is, as for ten years it has been, entirely unsettled. It is well known to the Council that a complete board, with all the regulations necessary for its management, has been long agreed to by all the medical authorities in England. But, as years passed by and legislation failed, it became clear that, so long as no such combined or State Examination existed in any form in Scotland or Ireland, the English board was not likely to come into operation. The Medical Act of 1858 gave permissive powers of combination to the nineteen licensing bodies. It gave no compulsory powers to the Council. To the majority of this Council, therefore, there appears, without legislation, no prospect of change, however, desirable. Under these circumstances the Council has done, and is doing, what it can by stimulating education and inspecting examinations, both of which have been

[1] Reports on Professional Education and Examination, 1869.

much improved. In some respects the examinations may be becoming too severe for many students, unless systematic and careful measures can be taken to secure in the weaker schools as good opportunities and as effective teaching as in the best. To ask this is to ask what may be impossible; therefore, at present, the examination test, however imperfect an instrument, must be chiefly relied upon. Competition in schools, if the examining boards can be made thoroughly judicious for attaining the object in view—viz., sufficient practical professional skill—will simply mean a competition for ensuring the best education. The Royal Commission will doubtless seek a solution of this problem with the least possible delay, and we may be sure will endeavour to leave the administration of its recommendations to the executive best adapted to the existing state of things and to the public interest. It would not become me to suggest any fresh action in new matters on the part of the Council, pending the labours of the Commission, which this Council has every reason to desire may be speedy, complete, and final. We have at this meeting to continue steadily, and, it is hoped, rapidly, the discharge of the necessary and appointed duties which we have in hand.

On the motion of Mr. TURNER, seconded by Mr. SIMON, the address was ordered to be entered on the minutes.

The Business Committee, consisting of Dr. Pitman (chairman), Dr. Aquilla Smith, and Dr. Haldane, was reappointed, as was also the Finance Committee, consisting of Dr. Quain (chairman), Dr. Aquilla Smith, Dr. Pitman, and Dr. Scott Orr.

Dr. PITMAN moved, "That a committee be appointed to consider and report at a future meeting on the preparation of the next edition of the Pharmacopœia, and that it consist of the following members, Dr. Quain (chairman), Dr. Aquilla Smith, Dr. Leet, Dr. Pitman, Mr. Macnamara, Dr. Haldane, and Mr. Bradford." He expressed a hope that the Council would not consider that the object of this motion was to take immediate steps for the republication of a new edition of the Pharmacopœia, because there were at present about 4000 copies on hand. For nineteen years the committee was appointed and reported annually; but by some oversight a few years ago that was not done. There was, therefore, now no such committee in existence to perform one of the duties specially required by the Medical Act. The present Pharmacopœia was published about fourteen years ago.

Sir WILLIAM GULL seconded the motion. He considered that it was a disgrace to the Council to have gone so long without improving the Pharmacopœia. To make it of any use to the profession the committee ought to prepare an addendum year by year containing all new remedies.

Dr. AQUILLA SMITH approved of Sir William Gull's recommendation.

Mr. TURNER suggested the addition of Sir William Gull's name to the committee.

After a few remarks from Mr. Macnamara and Mr. Simon, the motion was agreed to, with the addition of Sir William Gull's name.

On the motion of Sir WM. GULL, seconded by Dr. PYLE, it was agreed, "That it be an instruction to that committee to report to this Council year by year as to addenda to be made to the Pharmacopœia."

A table showing the results of professional examinations held in 1880 for qualifications granted under the Medical Act by the bodies named in Schedule A was laid on the table and ordered to be entered on the minutes.

The usual returns from the Director-General of the Medical Department of the Navy, and from the Army Medical Department, were received, and ordered to be entered on the minutes.

A communication was received from the King and Queen's College of Physicians in Ireland, in accordance with the recommendation of the Council to the licensing bodies to instruct examiners in professional subjects to report to them any cases in which decided ignorance in general education had been displayed by the candidates, with the name of the board or boards before which the preliminary examinations had been passed. The communication stated that in the examinations conducted by the College in 1880 eight candidates for the licence in medicine had been deficient in orthography, of whom six held the licence of the Surgery of the Royal College of Surgeons in Ireland, and two that of the Royal College of Surgeons of England.

Dr. SMITH called attention to the fact that the King and Queen's College of Physicians in Ireland was the only body that had complied with the recommendation of the Council, and added, in explanation of the largeness of the proportion of the candidates referred to holding the licence of the Royal College of Surgeons in Ireland, that three-fourths of the candidates coming before the King and Queen's College of Physicians in Ireland were licentiates of the former body.

Mr. TURNER pointed out that the King and Queen's College of Physicians had not complied with the recommendation of the Council as to the bodies which had passed the candidates in preliminary examinations.

Dr. HALDANE asked if the candidates in question had been rejected by the King and Queen's College of Physicians.

Dr. SMITH.—Certainly not.

On the motion of Sir WM. GULL, it was resolved that the College be requested to furnish the Council with the names of the bodies before which the candidates had passed their preliminary examination.

A communication was read from the Royal College of Surgeons stating that the Council of the College had decided that the preliminary examinations for the diplomas of the College, at present conducted by the College of Preceptors, under the authority of the College, should cease from and after Dec. 31st, 1881. A letter was also read from the College of Preceptors on the same subject, expressing a hope that means would be taken to replace the examinations by some special scheme of a similar character, placed under the control of the Medical Council, and adding that it would give pleasure to the Council of the College if it could be in any way instrumental in carrying such scheme into effect. A report on this subject was presented by the Executive Committee, but before it was read,

Dr. STORRAR complained that the Executive Committee had reported upon a subject which had not been referred to it. The committee, he said, was becoming an *imperium in imperio*, and was practically superseding the action of the Branch Council for England.

Dr. PYLE said he was about to give notice of a question as to whether the action of the Executive Committee was in accordance with the standing orders of the Council.

The PRESIDENT said that Standing Order No. 8 stated, "The Executive Committee shall consider and prepare reports upon any subjects that may seem to require the attention of the Medical Council"; and the object of the committee was to expedite the business of the Council.

Dr. HUMPHRY said that if the committee had not taken action in the matter nothing would probably have been done in reference to it till next year, when the question would be formally referred to the committee.

Dr. STORRAR said the College of Preceptors might have been asked to wait upon the Council to-morrow; but he objected to the whole character of the proceedings of the Executive Commtttee having been altered. Of late years several matters had been considered by the Executive Committee which ought properly to have come before the Branch Council for England. The result had been that the Branch Council had had no meeting for a whole year.

Dr. SMITH said formerly the Executive Committee consisted entirely of English members, but now the objections to the committee had been removed by the change in its constitution.

Dr. PITMAN said it would be only common courtesy to let the Report be read. Any objections to it would be heard afterwards.

The Report was then read.

REPORT TO THE GENERAL COUNCIL BY THE EXECUTIVE COMMITTEE.

In regard to the letter received from the Royal College of Surgeons of England (Clause 11 of this programme), and the foregoing letters (in Clauses 14 and 16) from the College of Preceptors, the Executive Committee reports to the General Council as follows:—"The Examinations in General Preliminary Education under the authority of the Royal College of Surgeons previously to 1875 were held in June and December. Since that time they have been held in March and September, because those months were found to be more suitable to the medical student, as they immediately precede the summer and winter sessions; and the convenience of this arrangement has been proved by the great number of candidates who have resorted to them. It is therefore important that preliminary examinations, suitable and accessible to intending medical students, should be held in those months. After the present year, the 'Registration

Examination for medical students' by the University of Durham, and the 'Examination in Arts' by the Apothecaries' Society of London, will be the only examinations in England which take place in those months. If the often repeated recommendation of the Medical Council, that the preliminary examination of medical students should be conducted by the National Educational and Examining Bodies, is to be carried out in England, it is essential that examinations suitable for intending medical students should be conducted at times convenient to them. The committee would gladly have been able to report that the University Local Examinations and the Oxford and Cambridge Schools Board Examinations are able to supply the deficiency. Those examinations are held in May, June, July, and December, which are the months most suitable to the several schools; and they will probably be more and more resorted to as avenues to registration by medical students; but the times at which they are at present held are inconvenient to many medical students. The letter from the Secretary to the College of Preceptors indicates that that body is willing to institute an examination similar to that which it has conducted under the authority of the College of Surgeons, and by means of local centres to render it more accessible to most medical students. The committee therefore recommends that the Council should delegate to the Executive Committee to make arrangements with bodies willing to institute preliminary examinations suitable for medical students."

The Draft Scheme was ordered to be entered on the minutes, and the Report was received and also ordered to be entered on the minutes.

The Council then proceeded to consider the charges against Samuel Levenston, M.D., of 6, Hope-street, Glasgow. Mr. Anderson appeared as counsel for Dr. Levenston, and Mr. Dickens attended on behalf of the Council as a legal assessor.

Mr. OUVRY read a declaration by a Mr. Bayne, an officer of the Glasgow Mendicity Society, in which he stated that he had frequently in the streets of Glasgow been handed copies of handbills and pamphlets by Dr. Levenston's distributors. Specimens of these were produced and verified by the witness. In other portions of the document there were statements of what Mr. Bayne had heard about the results of Dr. Levenston's treatment.

An affidavit by a man residing near Galashiels was also read. It stated that he had paid five guineas to Dr. Levenston for a parcel containing eight bottles of medicine, and subsequently fifteen guineas for three other parcels. He was not benefited by the medicine, but, on the contrary, was getting into a state of despondency.

Mr. ANDERSON protested against the document being laid before the Council, on the grounds that the notice with which Dr. Levenston had been served contained no intimation of such a charge, and that the person was not present to be cross-examined.

Dr. S. LEVENSTON, in answer to questions by Mr. Anderson, said some of the pamphlets produced had been out of print for a great number of years. A handbill, headed "Elixir of Life," had been circulated in the streets of Glasgow for the last twenty years. His directions were that it should be given only to men. A book, entitled "Nervous Debility, its only Cause," was also distributed in the same manner. The "Elixir of Life" was a strong tonic, sold in bottles. His charge was 35s. per parcel of four bottles. He had no recollection of the case referred to from Galashiels, and he kept no books to which he could refer. He had no knowledge of ever having been asked to return the fifteen guineas. If he had expected such an examination as the present he could have brought letters from persons who had been benefited by his treatment. He certainly did not think that the pamphlet on "Nervous Debility" was morally injurious to the persons who read it. To the best of his ability he had given honest and good advice, as an ordinary practitioner, to those who applied to him.

In cross-examination by Mr. OUVRY, the witness said he did not believe that any of his agents had ever sent one of the pamphlets to an educational establishment in Belfast. The medicine he prescribed was the result of long study. He did not think he was entitled to answer the question as to whether it consisted largely of proof spirit.

After a brief discussion between Mr. ANDERSON and Mr. OUVRY the latter withdrew the deposition from Galashiels, and consented that it should not be considered proper evidence.

Mr. ANDERSON then addressed the Council on behalf of Dr. Levenston. He urged that "a due inquiry," as required by the Act, required something more than the statements which had been laid before the Council, many of which were mere hearsay statements that ought never to have been made. He also complained that Mr. Ouvry had not furnished Dr. Levenston with a copy of the documents which were to be brought forward against him. Reference had been made to Dr. Levenston's "victims," but none of them had been brought before the Council for examination, and no adequate evidence of "infamous conduct" had been forthcoming. It had been said by a witness that the medicines were "worthless," but no inquiry had been proved with reference to the accuracy of that statement. Dr. Levenston's conduct might have been unprofessional, and it was a matter of regret that he should have circulated the bills and pamphlets produced; but that, he maintained, was not infamous conduct within the meaning of the Act. A vulgar, puffing announcement of some quack medicine, such as Dr. Levenston had put forth, was certainly unprofessional, but nothing more. If the medicine itself had been worthless, evidence of it would have been given, as he had no doubt that some tests had been made. As to the pamphlet on self-abuse, the subject was no doubt one from which they naturally shrank; but it could not be ignored; it must be treated medically, and he maintained that the work in question, which contained salutary warnings to those who needed them, had nothing in it which could be considered as disgusting or infamous, as alleged in the declaration. The habit in question was a disgusting one, but a medical essay upon it could not be so styled. The manner of its circulation might be open to question; but could it be contended that the circulation in large numbers of a pamphlet in itself unobjectionable was infamous conduct within the meaning of the Act of Parliament?

Mr. OUVRY, in reply, called attention to the fact that the circulation of the pamphlets had been admitted, and said that the matter now rested with the Council.

Strangers were then directed to withdraw while the Council deliberated. At a few minutes to six the doors were again opened, when, on the motion of Dr. PITMAN, seconded by Dr. HUMPHRY, the following communication from the Privy Council Office was referred to a small committee to be considered and reported upon.

"Council Office, March 9th, 1881.

"SIR,—I am directed by the Lord President of the Council to transmit to you the enclosed copy of the latest regulations published respecting the conduct of Swiss Medical Examinations, and I am to request that you will lay that document before the Medical Council, and that you will move that body to favour his Lordship with their remarks on the subject.

"I am, Sir, your obedient servant,

"C. L. PEEL.

"To the Registrar of the General Medical Council."

This letter was accompanied by a pamphlet of thirty closely-printed pages, containing the "Règlement pour les Examens de Médecine Fédéraux."

The PRESIDENT then announced that the Council would resume the consideration of Dr. Levenston's case to-morrow, and the Council adjourned.

WEDNESDAY, APRIL 27TH.

At the meeting of the Council to-day, the consideration of the case of Dr. Levenston was resumed. The Council deliberated in private, and ultimately came to the following decision: "That Samuel Levenston, M.D., is adjudged, after due inquiry, to have been guilty of infamous conduct in a professional respect. That, as it has been proved to the satisfaction of the General Medical Council, that Samuel Levenston has been guilty of infamous conduct in a professional respect, the Council does, by this order in writing, direct his name to be erased from the Medical Register, and gives orders to the registrar to erase his name accordingly."

Dr. HUMPHRY, in moving the adoption of the recommendation contained in the report of the Executive Committee respecting preliminary examinations, referred to the recent announcement of the College of Surgeons as to the abandonment of the examinations of the College of Preceptors. That announcement, he said, was a very important one, inasmuch as a very large proportion of the medical students in England resorted to that examination. The College of Surgeons had renounced the power of superintending the preliminary examination of those students, and at the same time renounced

not inconsiderable pecuniary advantages in following the recommendation of the Council. It had often been said that the corporate bodies did not attend to the Council's recommendations; but in the case of the College of Surgeons there had been a great concession to the wishes of the Council. It could hardly be supposed that a body like that would have adopted that course had it not been for the relations existing between the College and the Council, maintained by means of its representative. The College had expressed a hope that under the circumstances the Medical Council would, as far as possible, require that the examinations recognised in lieu of those abandoned should be held at such times and places as would be most convenient for the candidates—viz., in March and September. The committee had ascertained that the greater number of examinations were not fixed at those times. The only examinations in September were those of the University of Durham and the Apothecaries' Society. In abandoning the examinations of the College of Preceptors the College of Surgeons hoped that they would be continued, not by the other corporations, but by the general examining bodies of the United Kingdom. The Oxford and Cambridge School Board held an examination in July, but their requirements were too high for ordinary medical students, and a proposal was about to come before the Board to have an examination in July for a certificate of a lower character. It had been proposed by the College of Preceptors to institute another examination in place of the one which had been given up. The Executive Committee had considered the subject, and thought that it required deliberation as to whether, if the examinations were continued, they should be subject to some sort of visitation. Dr. Humphry concluded by proposing "that it be delegated to the Executive Committee to make arrangements with bodies willing to institute preliminary examinations suitable for medical students."

Sir WM. GULL seconded the motion. He believed that in the making of a violin the first requisite was to select the wood, and in an intellectual profession like the medical the first requisite was to select the very best material they could find. He had before suggested that there should be an examination which would cut off 33 per cent.; and the late Professor Stokes had expressed his belief that if that were done all the rest of the examination might go. He was glad that the College of Surgeons had given up the examination hitherto conducted, but it ought not now to be left to chance. As to the proposed examination of the College of Preceptors, if it were adopted by the Council it ought certainly to be subject to some supervision. They could not supervise all the examinations, but they might do what they could in that direction.

Mr. SIMON thought that the matter ought not to be delegated to the Executive Committee without some fundamental instructions. The preliminary education required was not one specially designed for medical students, but an examination common to all among the educated classes; and hence the Council had been anxious to have the examinations conducted by the general educational bodies of the country. The College of Preceptors had a general examination, and it could arrange for one of them at a convenient time for medical students, without arranging any special examination for such students alone.

Dr. QUAIN hoped that the Council would not go back to the old system of preliminary examination by the corporations. Very few of the bodies now retained the examinations; and as to the suggestion of the College of Preceptors, for a special examination for medical students, it was the most monstrous proposal that could be made.

Dr. STORRAR referred to the appointment of a committee of the Council twenty-two years ago on the subject of arts education, and to the struggle that had been required to enforce such education for medical students—not a special one, but one suitable for all classes. The exact subjects were not so important as the adoption of *some* means of mental discipline; and the committee expressed its opinion that no new educational machinery was required. Every effort had been made to induce the Medical Corporations to give up the arts examinations, and he was highly gratified at the example which had been set by the College of Surgeons in that direction. The proper course was for the Council to recognise the examinations of the educational bodies, including those of the College of Preceptors.

Sir JAMES PAGET said the object of the committee was only to recommend that the examinations should be so adjusted as to include all the subjects required by the Council, and to be held at the most convenient times.

Dr. HUMPHRY said it was never intended that the examination should be of a special character.

The PRESIDENT said he had never understood the recommendation otherwise than in the sense expressed by Sir James Paget, that the examinations should include all the subjects required by the Council, and be held at convenient times.

Dr. STORRAR regretted that the Council had last year increased the number of subjects of examination, believing as he did that it would have the result of sacrificing thoroughness to variety. He thought there should be a preliminary arts examination in one or two subjects, and afterwards a preliminary science examination. He wished to ask Sir J. Paget whether the College of Surgeons, in parting with the special examination of the College of Preceptors, would recognise the preliminary examinations of the other medical bodies?

Sir JAMES PAGET said the College wished to discuss the whole subject of preliminary examination. It required the registration of the student by the Council. There were certain cases of students coming from India wishing to study medicine, and in rare cases of the kind the College reserved to itself the right of deciding as to their admission.

Dr. STORRAR hoped that the College of Surgeons would have nothing whatever to do with the preliminary examinations of other medical bodies. For himself he would sweep away a large number of the seventy-three bodies now recognised. They had recognised certain universities in the American colonies, in the United States, in India, and at the Cape of Good Hope; but those recognitions should, he thought, cease, and the Branch Council could deal with individual cases as they presented themselves. If an Indian student had received a mental training through the medium of Sanscrit, his case could be separately considered and decided by the Branch Council. If the Medical Council would divide itself into two committees, one to consider the subject of preliminary arts education, and the other to consider the preliminary science examination, the result, he thought, would be very profitable.

Dr. HUMPHRY said he would substitute the following motion for that which he had made: "That the Executive Committee be requested to communicate with the universities of the United Kingdom and with the College of Preceptors with a view to promote that such of their examinations as most nearly correspond to the minimum requirements of the Medical Council in respect to preliminary education, and are open to all classes of candidates, should be held, or in part held, at times which should be generally convenient to medical students intending to enter upon their professional curriculum in either the winter or summer sessions."

Mr. MACNAMARA hoped that the Council would not be satisfied with written to the exclusion of *viva voce* examinations. The Council of the College of Surgeons in Ireland would willingly resign their functions to other hands, but there were great difficulties in the way, and they would not be contented with written examinations only. The present examination of the College was a very complete one, and included subjects, as required by the Medical Council, not required by the university itself. The Schools of the Board of National Education gave instruction in all the required subjects except Greek, but the difficulty was to get an Examining Board.

Dr. Humphry's motion was then put and adopted.

The following report was presented by the Executive Committee with reference to certain letters that had been received from the Oxford and Cambridge Schools Examination Board, the Cambridge University Local Examinations Board, the University of Cambridge, and the Medical Committee of the Hebdomadal Council of Oxford, on the subject of preliminary examination, in reply to a circular letter addressed to them by the Council:—

"It appears that if the new regulations with regard to preliminary examination passed during the last year's session of the Council be strictly enforced, none of the examinations conducted by the University of Cambridge, and the same may be said of those conducted by the University of Oxford, will fulfil the required conditions. It is not probable that those examinations could be altered into conformity with the new regulations; the Executive Committe, therefore, bearing also in mind the recommendation of the Council that 'it is desirable that the examination in general education should be left to the universities, and to such other bodies engaged in general education and examination as may from time to

time be approved by this Council,' recommends that the examinations in general education conducted by universities should be accepted as heretofore."

Dr. HALDANE, in moving the adoption of the recommendation of the report, said that some of the university examinations were of a higher standard than were required by the Council, but did not in all respects conform to the letter of the Council's regulations as to the subjects included. In some cases dynamics, dictation, and composition did not form part of the examination, but as the universities had acted in the spirit of the recommendations of the Council, he thought that the examinations should be recognised as heretofore.

Mr. TEALE seconded the motion.

Dr. STORRAR asked if the matter had been referred to the Executive Committee.

Dr. HALDANE said it had not; but the committee thought that time would be saved by their considering the letters that had been received in reply to the circular, and bringing the matter before the Council.

Dr. STORRAR said he heartily approved of the proposal to recognise the university examinations, though they did not embrace all the required subjects, but he renewed his protest against the system which had crept into the proceedings of the Executive Committee, in first dealing with subjects of that character and then handing them over to the Council for consideration. He would vote for the proposed recognition, but not for the report of the Executive Committee.

Dr. HALDANE thought that would amount to a distinct censure upon the Executive Committee.

Dr. FERGUS said the standing orders required the Executive Committee to "prepare reports upon any subjects requiring the attention of the Council."

Dr. STORRAR objected to the business of the Council being "filtered" through the Executive Committee.

Dr. HUMPHRY said that it had often been said that the business of the Council would be better done if it were considered and arranged beforehand; and the Executive Committee was the body required by the standing orders to do that very work. It was for the Council to accept or not the recommendations of the committee. The fees of the Executive Committee had been increased, and he imagined that it was expected that their duties should be increased also.

Dr. SMITH said that Dr. Storrar's amendment involved a censure upon the Executive Committee, and he could not therefore vote for it.

Mr. SIMON thought the committee should distinguish between the preparation of matter for consideration by the Council and the initiation of judgment. He thought it would be better to adopt the recommendation proposed as a separate motion, but not as part of the report. A report was often argumentative, and they might not be able to adopt the arguments as presented.

The PRESIDENT expressed his concurrence with the views of Mr. Simon. He did not think the proposal involved any censure on the committee, but believed that the course proposed by Mr. Simon was the most convenient one to adopt. The committee had only intended to frame a motion for discussion, and not to express any judgment in the matter.

Dr. HALDANE said he would withdraw his motion, and substitute, "That the examinations in general education conducted by the universities be accepted as heretofore."

Mr. MACNAMARA said the Council had spent a good deal of time last year in considering the subjects which the student should be acquainted with, one of the most important of which was "The Elementary Mechanics of Solids and Fluids"; and now it was proposed to undo what the Council had already done, several of the universities not examining in the subjects required by the Council.

Mr. TURNER thought that the motion should be enlarged, and that the Council should distinctly express its opinion that if any of the university examinations which it was proposed to accept did not include the subject of the Elementary Mechanics of Solids and Fluids, the candidate should be required to pass an examination in that subject before he was admitted to his professional examination.

Dr. HALDANE's motion was then carried, with the following addition suggested by Dr. Storrar: "But that if in any of these examinations the subjects of Elementary Mechanics of Solids and Fluids are not included, a knowledge of those subjects should be required at a subsequent examination."

Mr. SIMON said that the first-class examination of the College of Preceptors was accepted, of course, with the same condition as had been put upon the universities. It was, in reality, a higher examination than was required by the Council, and he would suggest, for the consideration of the Executive Committee, whether the second-class examination of the College might not also be accepted. It was somewhat under the required standard, but that might be compensated for by requiring the candidate to pass in some of the higher divisions of the examination.

The following report was brought up from the Executive Committee:—

"The Executive Committee begs to call the attention of the General Council to cases of students, coming from India, who have passed the Matriculation Examination at the several Indian universities. The examination at these universities includes Latin as an optional subject, but the students, as a rule, take up Sanscrit or some other language in place of Latin. The regulations of the Council require that the Certificate of Examination from these universities should include Latin. Certain students from Bombay who have passed the university examination there, not including Latin, have applied to be allowed to enter for examination, on condition that they shall now pass an examination in Latin, and this the Executive Committee has acceded to. Certain other students in the same condition have applied to the Executive Committee to allow them to enter for examination without any examination in Latin. The committee, under the special circumstances of the case, has considered that the passing in Sanscrit may be accepted in place of Latin, and has granted their request. As, however, this is not in accordance with the words of the recommendation of the General Council on education and examination, the Executive Committee thinks it right to submit the matter to the General Council, in order that the matter may be amended, and a rule laid down for the future guide of the committee. The committee suggests that the General Council delegate to the Executive Committee power to make exception to the recommendations on education and examination, in cases in which such exception shall seem to them to be reasonable."

Dr. STORRAR inquired how the question had come before the Executive Committee.

Dr. HUMPHRY said that the cases referred to in the report had from time to time been brought before the Executive Committee. Strictly they should, no doubt, have been brought before the English Branch Council (Hear, hear, from Dr. Storrar), but the Executive Committee had thought it better to assume the responsibility of making the exemptions instead of calling together the Branch Council for that particular purpose, which would have involved considerable expense, and would have been an unnecessary piece of red-tapeism.

Dr. STORRAR said he had given notice of a motion for the reconsideration of the standing orders relating to the proceedings of the Executive Committee.

Mr. TURNER did not wish to enter into the pretty quarrel which was impending, but would leave the bodies concerned to fight it out between themselves. He would only say that if the recommendation of the committee were adopted, the Scotch Branch Council would be put into a difficult position. It had often had similar cases brought before it of young men coming from the Indian universities without passing an examination in Latin, and it had positively refused over and over again to register them, thus complying with the recommendations issued by the Medical Council. Now, however, it appeared that the Executive Committee had been overriding the resolutions, not of the English Branch Council, but of the General Medical Council itself. With all deference to the committee, he could not help thinking that they had taken a liberty with the Council's recommendations which they had no right to take, and which certainly had put the Scotch Branch Council in a difficult position.

The PRESIDENT said, in reference to the motion of which Dr. Storrar had given notice, that the Executive Committee would only be too glad to have some of the difficult points that had arisen definitely settled. They were anxious to do their best under the circumstances, and desired to have their powers clearly defined.

Dr. STORRAR said that, in taking up the cudgels against the Executive Committee, he did not wish to reflect upon the members individually, who, he had no doubt, had done what they considered their duty; but, filling somewhat the position of Her Majesty's Opposition, he hoped it would not be considered improper that he should express his views clearly and strongly.

The further consideration of the report of the Executive Committee was adjourned.

On the motion of Dr. PITMAN, seconded by Dr. SMITH, Sections I. and IV. of the Standing Orders were referred to the Business Committee to report whether they would recommend any, and if so what, alterations and additions in those sections.

The Council then adjourned.

THURSDAY, APRIL 28TH.

At the meeting of the Council to-day, the adjourned consideration of the report of the Executive Committee in regard to certain students from India was resumed, and after some discussion it was resolved, "That in cases where for some special reason candidates for admission to professional examinations by the licensing bodies may not be able to comply with all the recommendations of the Council as regards examination in general education and registration thereon, exceptions may be allowed;" and it was referred to the Executive Committee to prepare for the consideration of the Council draft rules defining the classes of cases in which such exceptions might properly be allowed.

The remainder of the sitting was occupied with dental business and the discussion of a motion by Dr. Storrar, "That every registered dentist holding any of the surgical qualifications recited in Schedule A of the Medical Act shall be entitled to have such qualification or qualifications recorded on the Dentists' Register, as evidence of a higher degree of knowledge." After an animated debate the motion was carried by 13 against 5, thus reversing the action of the Council at its previous meeting, when it was decided to erase the additional qualifications that had been placed in the Dentists' Register. The Council then adjourned.

A fuller report of this sitting will appear in our next issue.

RECENT DISCOVERIES IN PHYSICS.

SEVERAL very remarkable discoveries in physics have appeared during the last few months. The connexion of physics with chemistry has of late years become more intimate than ever, and many of the most distinguished chemists, both in England and abroad, have in consequence been working in physical lines, hoping by the investigation of molecular physics to gain light in regard to what are commonly called chemical phenomena and chemical laws. A short review of some of the more striking of the results so obtained will interest our readers.

Professor Carnelley's singular discovery of "hot ice" deserves the first notice. It has long been known that the melting-point of ice is lowered by pressure. Ice subjected to the rapid action of an hydraulic press liquefies, and when the pressure is removed freezes again, taking, of course, the form of the mould or other vessel which contains it. The movement of a glacier through a tortuous valley is explained on this principle, the ice in turning corners being melted by the pressure and freezing again into the new form. Professor Carnelley now finds that reduction of the pressure on ice raises its melting point to an extent that could never have been anticipated. A large globe is connected by a short thick india-rubber tube with a glass tube five feet long. The whole is filled with mercury, and the free end of the tube opened under mercury. Of course the mercury leaves the flask and falls in the tube until it stands at a height of about 30 inches. The flask and upper part of the tube are now vacuous, and in fact the instrument is a barometer. The flask is then bent over on its side, and covered with ice and salt. A little water is then injected into the tube, and soon freezes by its own evaporation. We have now practically a cryophorus. A thermometer has previously been fixed in the tube in such a position that its bulb is surrounded by the newly formed ice. If now the heat of a large flame is applied to the outside of the tube the ice evaporates but does not melt, and the thermometer immersed in it is seen to rise, in some experiments as high as 356° F., or very much higher than the boiling point of water. That the ice is really hot is proved by another experiment—a piece of ice prepared in vacuo in the above manner is allowed to fall into water at about 56° F. The water is actually *heated*, and not cooled by the ice.

Similar experiments can be made with corrosive sublimate and with camphor. Camphor is melted in a tube and the air pumped out. It solidifies at once, and no further application of heat will melt it; but when air is let in, instant liquefaction takes place and the camphor boils furiously.

Not less important, though less popularly interesting, are Mr. Crookes's lately published experiments on the viscosity of gases. This curious property of gases is defined as their internal friction—the resistance they offer to the gliding of one portion over another. Now, in 1859, Professor Clerk Maxwell deduced from the mechanical theory of gases the remarkable conclusion that the viscosity should be independent of the density of the gas; and a few years later he supplied experimental proof that within certain considerable limits this theoretical law was true. But it was seen that the law could not apply if the density of the gas were reduced below a certain point not reached in Maxwell's experiments. The viscosity of a gas is intimately connected with what is called the "mean free path" of its molecules. This mean free path is most simply described as the average distance through which each molecule passes before coming into collision with another molecule, and in all ordinary vacua it is a very small distance. But Mr. Crookes, with his wonderful experimental skill and scientific acumen, has pushed the research into regions of gaseous matter where tension is measured in millionths of an atmosphere. Gas in this state is not gas in the common sense of the word, but a fourth condition of matter. The number of its molecules being so greatly reduced, their mean free path is greatly increased, so that it can be measured by inches, or even by feet, and as a consequence the viscosity of the gas almost fades away. In fact, the curve which represents the increase of mean free path also represents approximately the diminution of viscosity. No one can yet appraise the value of this discovery, or the importance of the consequences which may flow from it.

Professor Tyndall's latest contribution to science is but a confirmation, with new apparatus, of results which he had previously obtained, and is an application of a well-known and recent discovery. But the application is so novel, and the thought which suggested it is so brilliant, that science has gained a most important method. Years ago Professor Tyndall showed that gases differed greatly in their power of absorbing and emitting radiant heat. Oxygen, hydrogen, and nitrogen absorbed and emitted almost none, and aqueous vapour—to take a single example—very much. These observations have been controverted by scientific men of recognised skill, and Professor Tyndall has therefore sought for a method perfectly unlike his old one by which to test their truth. No one can deny that his search has been successful.

Rays of electric light—for which, in subsequent experiments, rays of lime light, candles, and even those of a bar of hot iron not visibly luminous, were substituted—were allowed to pass through slits or notches in a revolving disc, and thence to a flask containing the gas or vapour to be examined. On the other side of this flask a tube was placed, by which any sound could be carried to the ear of the observer. When the flask contained perfectly dry air, or any gas which was unable to absorb obscure heat rays, no effect of any kind was perceived; but when any trace of aqueous vapour or any of the gases or vapour which had previously been found to absorb heat were present, a musical note was at once produced. The rays of heat are broken and converted into successive impacts by the slits or notches; and these impacts, if absorbed by the gas, produce momentary expansions, which, repeated with sufficient frequency, give rise to musical notes.

Professor Tyndall finds ordinary fire-damp to be a good absorber of radiant heat. The sounds which it emits are very powerful, and it is hoped that a really satisfactory fire-damp indicator may at last be obtained from this totally unexpected source.

A TESTIMONIAL has been presented to Mr. G. W. Hamilton Cumming, on his resignation of the office of house-surgeon, by the weekly board, medical staff, nurses, and friends connected with the Torbay Hospital, as a mark of their high appreciation of services rendered at a critical period.

THE LANCET.

LONDON: SATURDAY, APRIL 30, 1881.

THE meeting of the Medical Council at this particular time is a mystery. There is nothing in the President's opening speech, or in the proceedings up to the moment of our writing, to explain or to justify the calling together of the Council at the present time. When we announced, some weeks ago, that the Council was summoned for the 26th inst., we confessed ourselves quite unable to understand the fact. We find that many members of that august body labour under a similar disability. As usual, when there is nothing particular for the Council to do, it spends hours upon hours in reviewing its old or its recent Recommendations on Preliminary Education. It is within our knowledge that the meeting was arranged for without any consultation with the Irish members; and it is proper to mention that Dr. HAUGHTON, more competent, perhaps, than any member of the Council to speak on matters of Preliminary Education, is conspicuous by his absence, the time being inconvenient to him. The apologetic tone of the President's own speech is the best proof that nothing in the nature of business is the real explanation of the meeting at the present moment. The speech is full of allusions to the pending inquiry by a Royal Commission, and to the undesirableness of any serious changes in the regulations of the Council. The Council, it is suggested, had better defer requiring the observance of its regulations of last year in regard to preliminary and preliminary scientific subjects till after the report of the forthcoming Commission. "Were it not for the appointment of the Royal Commission," the Executive Committee would have been prepared to suggest changes for diminishing the expenses and facilitating the work of the Council, &c. In the face of such reflections we are increasingly puzzled to know what has brought the Council together for a fragmentary sitting—the second this year. The business that has been done would all have kept till July. The President's speech, including the suppressed or implied denunciation of those wicked persons who delight in parliamentary agitation, would have been as effective in July as in April. The removal of a name from the Register would have been as effective in July as now. The appointment of a Committee to consider the preparation of the next edition of the Pharmacopœia, and to report year by year as to addenda to the Pharmacopœia, is a very proper step, but equally fails to explain the meeting of the Council at present. It may be said that the Recommendations of the Council last year as regards the institution of a preliminary scientific examination, and the answers of the Bodies thereto, demanded a meeting of the Council. But what says the Report of the Committee that was appointed specifically to watch over this subject? It says that some answers have not yet been received; and as it would manifestly be undesirable to present a final Report, which would necessarily be incomplete, the Committee proposes to report fully at the next meeting. Clearly, therefore, this subject cannot be taken up at this meeting of the Council, even if the impending Royal Commission did not, as Dr. ACLAND suggests, make any disposal of it at present impossible. There remains the reported determination of the College of Surgeons to discontinue its Preliminary Examinations, conducted at present by the College of Preceptors under the authority of the College. But this decision is not to take effect till December of this year. Altogether, we are completely puzzled to explain the meeting of the Council, and more than ever amazed at the undignified position in which it places itself year after year in nibbling at Preliminary Education, to the embarrassment of the universities and other national educational institutions. Under these circumstances we are driven to seek for other explanations of the meeting of the Council at this particular moment, and to attribute it to some social feeling on the part of the President or some of the more influential members. We should not venture to imply that the President is perplexed with "thoughts of change" and a desire to see the Council a few times more in its present form. No such thought is possible to one who believes so devoutly in the absolute perfection of the body over which he presides, and who regards so complacently everything that it has done and left undone. We can only hope the members of the Royal Commission will study the proceedings of the present meeting in connexion with those of the last and preceding years, to see how interminably the Council revolves round the question of Preliminary Education, leaving the great subject of Medical Education, for promoting which it mainly exists, to take care of itself.

THE question raised by the line of conduct adopted—and, as it would seem, specifically recommended by the then President of the College of Physicians and others—in relation to the consultations held in a recent case between a Fellow of the College and a reputed homœopathist, is one of exceeding gravity, and concerns the public as urgently and as seriously as it concerns the medical profession. It is, above all other considerations, important that the discussion, which must proceed until the issue is finally adjusted, should be lifted out of the region of professional politics. Some of our lay contemporaries, not looking at the matter from a practical standpoint, have characterised the controversy as the outcome of a system of "trades-unionism," conceived in a spirit of "exclusiveness," among men animated by a feeling of selfishness and regard for "trade interests." If the truth were known, the facts would direct the judgment of every impartial on-looker to a totally opposite conclusion. In reply to such a charge it may be contended that it is clearly to the advantage of a profession to be united, and the exclusion of any class of practitioners from the fellowship of the body as a whole must entail loss and inconvenience upon the community. The medical profession suffers in a variety of ways daily because it cannot recognise homœopathists. It is misunderstood and maligned for its supposed obstinacy, while its members are compelled to make many and grievous sacrifices of personal feeling and interest to discharge the obligations of honourable independence which the profession has imposed upon itself. It is strange that those who charge us with "exclusiveness" do

not perceive that this is a fault—if fault it be—which carries with it a deterrent penalty. Obviously the consultee does not desire to be hindered in the exercise of his calling, or circumscribed as regards his constituency and *clientèle*. He is not likely to throw obstacles in his own path. He would rather consent, than decline, to meet any practitioner who asked for his assistance. In short, the profession has nothing to lose, but much to gain, by admitting homœopathists into its fellowship. It is past comprehension that this is not universally recognised. Why then do we not go when we are sent for to meet homœopaths? The answer is simply and finally that we *cannot* do so with clear consciences and as honest men. We should like to waive all difficulties. It is clearly our interest to do this; and if the case be an important one, it is perhaps not unnatural that we should chafe a good deal under the bonds of honour which hold us aloof, and strive might and main to make the divergent lines of inclination and duty seem to coalesce. The public may fairly assume that when a professional man is asked to render his aid, he wishes to comply with the request. Every sort of interest and inclination impels him to do so, and if he refuses it must be against his impulses, and because some weighty consideration coerces him. Again, the opposition we offer cannot arise from any desire to "crush out homœopathy," because there is everything in the mode of practice under that "system" to render it attractive to the professional man who adopts it. In so far as it is consistently practised, it goes by rule of thumb, and must relieve the physician from an infinity of scientific labour, thought, and anxiety. In short, the profession has no interest to be served, or object to be gained, in opposing homœopathy, or in declining to fraternise with homœopathists, and in so far as it restrains itself from a compliant course of conduct, and suffers the loss and annoyance entailed by "exclusiveness," it has a right to claim the respect due to an honourable policy and to resent the imputation of selfishness. We are unable to meet homœopathists because the light in which they view disease, and the principles on which they propose to treat it, are wholly at variance with those which every step forward in the cognate sciences of pathology and therapy confirms and demonstrates. There is no common ground for the homœopathist and the ordinary practitioner, and they cannot therefore consult; still less can they work together.

Now comes the question why we cannot—or, as our censors put it, will not—co-operate with homœopaths when these gentlemen lay aside their peculiar views, with the tenets of their distinctive school, and consent to act on ordinary principles, or to place themselves under the control of the consultee, engaging—and honourably fulfilling the engagement, even against their own better judgments—to carry out all his directions and prescriptions? We cannot answer this interrogation more explicitly than by adopting the phrase employed by Sir WILLIAM GULL last week, and saying we are unable to respect or trust any man who has "two sets of convictions." If the question at issue were a matter of taste, or even policy, in respect to a subject of minor importance, we might subordinate our opinions to the exigencies of the moment; but the greater the urgency of the summons addressed to us, and the more important the case, the greater is the need of strict rectitude. We cannot honestly beg the question, because the issues at stake may be those of life and death. These are not less solemn than the tenets of religion. We could not offer a dying man a choice of Judaism or Christianity—that is, if we ourselves believed in either. Of course, if we started by being sceptics in religion, it might be possible to meet the need of the moment by gratifying the wishes of the sick person or his friends; but this is not the attitude which the profession assumes towards science. Whatever other faults it may have, it is not faithless. Nor can we take the position occupied by those gentlemen who, having "two sets of convictions," assert their right to pick out the "good" things of all systems! Is the minister of religion entitled to serve GOD and Baal alternatively? Is the physician at liberty to obey the dictates of science or of his own instinct, at pleasure? Is it conceivable that Nature has contradictory laws at work in her system? Is it not rather likely that we err by misreading the lessons of her work? We, from our standpoint, are prepared to contend that the "law" of cure by similars is, in every case and under all its forms and applications, a scientific fallacy. We regard it as a misleading and mischievous dogma based on a misapprehension of the data from which it is professedly derived. Therefore we reject it; but those who hold it to be a law of nature are bound to obey it. How is it possible for us to meet a man who avows an alternative or an eclectic belief in the blackness of white and the whiteness of black? The proposal to consult with a physician who has "two sets of convictions" as to disease and its treatment, is an insult to common sense. Such a man must either be hopelessly lost in a fog, or he cannot be thoroughly in earnest in respect to matters of the highest and most urgent concern. Of the two we should have less objection to meet a "homœopath" pure and simple than a practitioner who either becomes all things to all men or claims to be eclectic. The "eclectic" school of physic is the most mischievous extant. It is just now a thorn in the flesh of humanity in America, and this claim to the exercise of a discretionary right to use all systems alike, seeking "the good in each," is the worst possible embodiment of *eclecticism!* The position assumed is that of an empiricist, bound by no law of the science of Nature, but prepared to undertake the treatment of disease, and to fight the battle against death, in obedience to some inner instinct to which no sane man is justified in giving heed. If the treatment of disease is to become a matter of feeling, akin to inspiration, either physic will degenerate into charlatanry, or the healing of the body must be handed back to the care of the priests. Society cannot be safe in the presence of medicine practised by inspiration unless the mission is worked out by a recognised clergy subject to ecclesiastical discipline. Science has nothing whatever to say to such a system or practice. If this pretension is to be admitted, the practitioners of scientific medicine must quit the field.

It is important that the public should understand this question fully and clearly. What we call "scientific medicine" is the science and art of healing based on a patient and ever-progressive investigation of the laws of life in health (physiology) and of the causes and effects of disease (pathology); side by side with which there is a ceaseless search for new remedies, new methods of treatment, and new light on the action of known drugs, and old modes of treatment (therapeutics and materia medica). These principal branches of

science are pursued with the aid of other branches (e.g., anatomy, chemistry, botany, &c.), also comprised in the architectonic of Medicine. All the provinces investigated lie within the domain of Nature, and the natural method is adopted in research. It follows that, even if *similia similibus curantur* were true—whereas it is false,—science could not accept it as the dogma of a school, because it arrests, and affects to supersede, the necessity for deep inquiry, by dignifying with the name of a "law of action" what is simply a surface feature of the *seeming* relations subsisting between a certain class of causes and effects. When, therefore, a man says, sometimes "like cures like" and at other times "contrary cures contrary," he is surrendering the last vestige of a claim to be recognised as a scientific practitioner, seeing that he professes to have "two sets of convictions," which are mutually destructive, and neither true, because they are *incomplete*. The parade of either, or both, of these alternative doctrines is as rational as, and no more reasonable than, it would be to say "like cures like" because the cold of a thaw is followed by the end of a frost, and "contrary cures contrary" because the light of day dispels the darkness of night! There is an egregious fallacy underlying each proposition, and the supreme folly of the attempt to embody either as a doctrine of science is apparent on the face of the fact that they are surface deductions from data which have neither been tested nor explored. Whether we regard the alternative "sets of convictions" held by those gentlemen who practise homœopathy and what they are pleased to call "allopathy," at discretion, as relating to sound systems or to misconceptions of fact, it must be obvious that it is equally impossible we should consult with those who hold them. No man can honourably engage in the practice of medicine who is not severely and righteously in earnest, and who is not fairly grounded in the principles of his scientific belief; and the profession, as a whole, is convinced, and will adhere to its conviction, that no two physicians can, or ought to pretend to, consult together except they be agreed.

There can be nothing but compromise—and compromise inimical to the health-interests of the patient, reducing instead of increasing his chances of recovery—when "homœopath" meets "allopath" in consultation. In the, hitherto unprecedented, case in which one of the two voluntarily divests himself of his professional character and consents to act as an assistant or nurse, carrying out "all the directions and prescriptions" of his chief, there could, of course, be no *consultation*, and the patient is simply treated by the so-called consultee. When "homœopath" and "allopath" meet, one treats symptoms, the other treats causes and states. The one looks for "indications" for the application of the principle "like cures like," while the other is striving to penetrate the underlying conditions of the morbid state, and searching for remedies to modify them, and so change it. The one is acting against the disease, the other acting with it. We will, for the sake of argument, concede that either method might, perhaps, benefit the patient; but it must be self-evident that a compromise of two modes of procedure so antagonistic as these are must end in the negation of both, and that the patient can be helped by neither system, while both stand in the way of his possible relief. Scientific medicine can never be made subservient to such a compromise as this, and honourable men must refuse to be parties to it. We are not actuated by any prejudice or stirred by any spirit of "trades-unionism" in making this avowal. It must, sooner or later, be seen to be the only logical and tenable position in the matter. We cannot trim our sails to catch the wind of popular doctrine on this subject. Sir WILLIAM JENNER embodied the mature judgment of the profession in his action in the recent most regrettable difficulty, and Sir WILLIAM GULL has adopted the view taken, and endorsed the decision. Sir WILLIAM JENNER is now President of the Royal College of Physicians, and we may, therefore, cherish the hope that a better and healthier state of professional morals will prevail in the medical body than that which led to a sacrifice of principle when the patient was an "illustrious invalid."

IN a recent number of THE LANCET we directed the attention of the profession to Battey's operation, or spaying of women. Since that time an article by Dr. SAVAGE, entitled "Oöphorectomy," has appeared in the April number of the *Birmingham Medical Review*. This paper gives a brief account of "twenty-five consecutive successful cases" in which the ovaries had been removed. Both ovaries were ablated in twenty-four of the cases, and one only in one case, the removal of the other being found impracticable owing to adhesions, as well in a first as in a second attempt made fifteen months subsequently. The operations in the series were undertaken for various reasons, such as ovarian pain, dysmenorrhœa, absence of the vagina and undeveloped uterus, myoma, prolapse of the ovaries, and hystero-epilepsy. In the course of the operations, or after, various pathological conditions were found, such as adherent ovaries, shrivelled ovaries, and cystic ovaries. The ovaries were manifestly diseased in nineteen of the cases, while they were apparently healthy in six only. The parts removed—these being ovaries or ovaries with portions of the Fallopian tubes—varied in weight from 30 grains to 310 grains. The first case of the series was operated upon in January, 1878; the second in January, 1879; and the remainder during 1880 and 1881. It appears that besides this series of twenty-five cases, the author has "had a few cases (of myoma) where simply an exploratory incision has been made, and nothing else done, either because the tumour for some reason, as size, thickness of stump, relations, &c., was incapable of removal, or the ovaries could not be reached, and yet in the course of a few weeks afterwards, the tumour showed a clear decrease in size." Moreover, "In the case of E. H——, not in this series, and which I class as one of incomplete oöphorectomy, both ovaries were so tied down by adhesions that I felt it impossible to remove them."

We have made the above quotations in order to draw attention to the fact that we do not think the author has done justice to himself, the profession, or science, by publishing a series of successful cases, while he had had in the course of his practice some cases in which the operation could not be completed. The operation of spaying is at present on its trial, and it is neither right nor just to publish successful cases only, withholding those that are unsuccessful. In saying this, we entirely acquit Dr. SAVAGE of any unworthy motive in publishing his successful cases; but we are of opinion that he has fallen into error in not

adding his unsuccessful ones. We trust that he will soon publish them.

The paper presents some points deserving of attention, and at the same time demands criticism. The author evidently has no little faith in the capabilities of the operation, for he states "as experience increases I am sure that the field for its benefits widens, and that it will gradually attain to a well-deserved reputation, and be carried out in many more and different cases than were at first proposed for its adoption." Unfortunately, in so far as this series of cases goes, such a conclusion is by no means justified, for the cases are so briefly recorded that it is not possible for the reader to form for himself any conclusion as to the necessity or desirability of the procedure. In an operation like spaying, which holds a peculiar position, and differs from all or most other operations, in that it unfits the subject for one of the chief objects of her existence; in the fact that the condition of the organs to be removed can, as a rule, not be diagnosed beforehand; and, further, in the fact that the conditions (reflex neuroses and pain) for which the operation is often undertaken have not and cannot at present be proved to be dependent upon the organs to be removed—an operation which is on its trial, and, we must add, one open to abuse,—every case in which it is performed, be it successful or fatal, complete, incomplete, or exploratory, should be recorded in detail, with the reasons for undertaking the operation. It is in this way only that the necessity or desirability of oöphorectomy can be judged of, and it is by this means also that a scientific estimate of the operation can be ultimately formed, and the limitations formulated with which it should unquestionably be hedged about. Every operation of this kind performed in our present state of knowledge is necessarily an experiment in physiology and pathology, and for this and reasons already named a full history of the case before and after the operation, as well as a minute description of the parts removed, should be placed on record. Not only should all cases in which the proceeding was successful as far as the possibility of the removal of the ovaries was concerned be recorded, but all exploratory and incomplete operations having removal of the ovaries as a chief or alternative object should be published. Such cases occur to all operators, and these contribute, no less than the successful ones, to the formation of a correct estimate of the value of spaying. The results of the operation should also be published. The cases should be watched for a protracted period afterwards—months or perhaps years; for the real effects of the mutilation do not appear to show themselves immediately in all cases. Speaking of ovarian dysmenorrhœa, Dr. SAVAGE says: "The effects of oöphorectomy in this class of disorders are well known not to be always immediate, and hence we must allow a certain time—say twelve months or so—before we can form a reliable opinion as to its benefits or otherwise in a particular case; and it is not difficult to conceive of the continuance of painful impressions and other abnormal sensations even for some time after the cause which produced them has been taken away." It should also be added that the reverse of this may happen: suffering may be relieved for a time and return after several months. This necessitates the watching for a prolonged period of all cases operated upon, for without a knowledge of the ultimate result no case can contribute to place the operation upon a proper and scientific basis. Now, in the series before us twenty of the cases were operated on since the beginning of last July—some as recently as last February,—and consequently a sufficient time has not elapsed to enable trustworthy conclusions to be formed with regard to them. Moreover, the author states: "I have not taken accurate notes of the question of menstruation afterwards, but I have a strong impression that it has not occurred more than once or twice in any of the patients, and that the large majority have not menstruated at all." We cannot refrain from asking: What is the value of cases so imperfectly recorded? They justify one conclusion, and one only—viz., that the ovaries in a large number of cases can be successfully removed, an inference we should have been perfectly warranted in forming from the success which has been obtained in ovariotomy.

There is one other point we would draw attention to—the fact mentioned by Dr. SAVAGE, that in some cases myomata diminish in size after an exploratory incision only has been made. This is very curious and very important, and is certainly not in favour of the operation of spaying. We deeply regret that the record of these cases is so meagre, for it is no small loss to science. A full and complete account of these twenty-five cases, and of the others upon which the author has operated, a full past history of the patient, a detailed description of the parts removed, and a full history of the patient for a year or two after the operation, would have been invaluable in the present state of our knowledge. We trust that the author will be able at some future time to supply these data, for without them this series of operations can be of but little value; it serves not to establish the operation upon a proper basis, but to make immediate recovery from it prominent, and, at the same time, to put out of sight the great object of the operation, permanent restoration to health, and in so far it is misleading. In making these observations we do not intend them specially for the author of this paper, but for all who undertake Battey's operation. There has been a great deal too much of immediate publication of results, especially when successful, and there have been too many scanty records of the operation published, so that it is not possible to form any trustworthy estimate of the value and place of spaying as a remedy for disease.

Annotations.

"Ne quid nimis."

THE ROYAL COMMISSION ON MEDICAL LEGISLATION.

WE have reason to believe that the following names will be submitted to the Queen:—The Master of the Rolls (Sir George Jessel), the Bishop of Peterborough, Lord Camperdown, Lord Reay, Mr. Sclater-Booth, M.P., Mr. Cohen, M.P., Mr. Huxley, Sir William Jenner, Bart., K.C.B. (President of the Royal College of Physicians), Mr. Simon, C.B., Professor Turner (of Edinburgh), and Dr. Macdonnell (of Dublin). We should gladly have seen the name of Mr. Erichsen (President of the Royal College of Surgeons), who has long been identified with medical education, examinations, and legislation during the last quarter of a century, on the list. There is, however, ample promise of energy in the

personnel of the Commission as provisionally constituted, and it includes names which afford a guarantee for the earnestness and completeness of the inquiry to be prosecuted.

MURDER, NOT "SUICIDE," OF THE SULTAN ABDUL AZIZ.

WHEN the official statement appeared to the effect that the ex-Sultan Abdul Aziz had committed suicide, we discussed the story at length on medical and general grounds, and wrote as follows (THE LANCET, June 10th, 1876):—"The ex-Sultan was of a singularly inert temperament. Those who saw something of him when in England are not likely to be the first to accept the story of his self-slaughter by the method alleged. He might, it will be contended, have taken poison if he could have procured it, but scarcely stabbed himself in the *arms* with a pair of scissors! Setting these and many other considerations aside, it is difficult, we repeat, to conceive that suicide, by an act of this nature, is probable. We hear nothing of any measures being taken to secure a free flow of blood from the opened veins, such as were familiar to the old-fashioned phlebotomists. There might even appear to be a sinister intention in the statement that an ex-Sultan, dying by his own design, selected as an instrument an implement so exclusively the tool, or possibly the weapon, of a woman. The sudden death, the strange story told in explanation, and the hasty interment, combine to make the whole affair a mystery. This is the impression produced by the story, and such are the inferences derived from the general facts and circumstances of the case. We are, however, confronted by a document signed by nineteen physicians of various nationalities describing the appearances, and attesting that in their judgment the case was one of suicide." The accuracy of the conclusion at which we arrived, after a careful examination of the evidence available at the moment for the formation of an independent judgment, is now, it seems, demonstrated by the confession of one of his assassins. "At the instigation of a certain Mohmoud Bey, who was formerly a high official, and has been for the last four years a member of the State Council, three servants of the Sultan Murad, and a Palace secretary, called Bahú Bey, have been arrested, and the three former have, it is said, confessed to having taken part in the assassination of the late Sultan. One of the three, a professional wrestler, celebrated for his great muscular strength, is said to have held His Majesty while another opened the principal veins of his arm with a pair of scissors."

OVER-WORKING THE UNDEVELOPED BRAIN.

"OVER-WORK," properly so-called, can only occur when the organ upon which the stress of the labour falls is as yet immature, and, therefore, in process of development. When an organ has reached the maturity of its growth it can only work up to the level of its capacity or faculty for work! Fatigue may produce exhaustion, but that exhaustion will come soon enough to save the organ. Repeated "efforts" may, under abnormal conditions, follow each other too rapidly to allow of recuperation in the intervals of actual exertion, and as the starting-point will, in each successive instance, be lower than the previous state, there may be a gradual abasement; but even this process should not seriously injure a healthy and well-developed organ. In short, a great deal of nonsense has been said and written about the "over-work" of *mature* brains, and there are grounds for believing that an excuse has been sought for idleness, or indulgence in a valetudinarian habit, in the popular outcry on this subject which awhile ago attracted much attention. Nevertheless there can be no room to question the extreme peril of "over-work" to growing children and youths with *undeveloped* brains. The excessive use of an immature organ arrests its development by diverting the energy which should be appropriated to its growth, and consuming it in work. What happens to horses which are allowed to run races too early happens to boys and girls who are over-worked at school. The competitive system as applied to youths has produced a most ruinous effect on the mental constitution which this generation has to hand down to the next, and particularly the next-but-one ensuing. School-work should be purely and exclusively directed to development. "Cramming" the young for examination-purposes is like compelling an infant in arms to sit up before the muscles of its back are strong enough to support it in the upright position, or to sustain the weight of its body on its legs by standing, while as yet the limbs are unable to bear the burden imposed on them. A crooked spine or weak or contorted legs is the inevitable penalty of such folly. Another blunder is committed when one of the organs of the body—to wit, the brain—is worked at the expense of other parts of the organism, in face of the fact that the measure of general health is proportioned to the integrity of development, and the functional activity, of the body as a whole in the harmony of its component systems. No one organ can be developed at the expense of the rest without a corresponding weakening of the whole. These faults of "training" attain their supreme height of folly and short-sightedness when they are committed in reference to the youths destined for the public services. They are especially illustrated by the "Regulations respecting Naval Cadets" just issued, and which will take effect in June of the present year. The work of the Civil Service Commissioners in respect to these classes of the possible servants of the State is personally and racially *destructive*. Sooner or later public opinion must recognise this fact, and then perhaps the Government or the Legislature may be moved to interpose—not before, but when it is too late.

THE MEDICAL SOCIETY OF LONDON.

THE last ordinary meeting of the Medical Society for the session took place on Monday, the 25th inst., under the presidency of Dr. Broadbent. A remarkable case of so-called "villous" tumour of the rectum was shown by Mr. Goodsall, the tumour being the size of an orange, lobulated, vascular, and pedunculated. Dr. Allen Sturge read a lucid and interesting paper upon muscular atrophy, especially that form which is dependent upon affection of the anterior grey cornua of the spinal cord, seen in the acute inflammatory form in infantile paralysis in the parallel affection in the adult, and in a chronic form in progressive muscular atrophy. One of the main points raised by Dr. Sturge was the fact that the muscles involved in such cases were not those which are related together by their anatomical distribution or nervous supply, but those which are physiologically connected in the execution of movements, a point more difficult to establish in the case of complex coördinated acts than in the simpler ones. This was exemplified in two patients, the subjects of muscular atrophy. In one, the muscles flexing the elbow-joint—namely, the supinator longus, biceps, and coraco-brachialis—were wasted, the other muscles of the arms and forearms being of full size; and in the other, these flexors of the elbow were the only muscles of the limb which were not affected. Applying the same reasoning to lead palsy, Dr. Sturge thought that the selection of the affected muscles pointed to a central rather than a peripheral lesion. Dr. Gilbart Smith exhibited some of the apparatus, and many photographs in illustration of its various forms, invented by Professor Zander of Stockholm, and largely employed in the system of mechanico-therapeutics. He read a short paper descriptive of the measures aimed at in the exercise of

muscles, and enumerated the affections in which it had been found most useful.—It was announced that on Monday next, May 2nd, the Annual Oration would be delivered by Mr. Durham, and the usual conversazione would take place.

DR. BROWN-SÉQUARD'S RESEARCHES.

DR. BROWN-SÉQUARD is indefatigable in his experimental investigations, and gives the results to the profession without delay. Three papers by him were read at a recent meeting of the Société de Biologie. One related to the methods of investigating the action of poisons. He believes that the methods are unreliable which are at present in use to determine whether a poison acts, after its absorption into the blood, on the nervous system or other organs, as the heart, or by an irritation of the peripheral nerves of the surface to which it is applied. His researches with chloroform, chloral, prussic acid, and other substances, have led to another mode of experimentation, which has already yielded important results. After having placed the poison in contact with the skin, or injected it beneath the skin on one side of the body, he ascertains the differences which exist between the two halves of the body in voluntary movements, sensibility, reflex action, the sensory organs, the bloodvessels, the colour of the blood, the involuntary contractions, the excitability of the nerves, the muscular irritability, cadaveric rigidity, putrefaction, the state of the kidneys, of the lungs, of the two halves of the cerebro-spinal centres, &c. The striking differences found between the two sides in the case of the animals on which Dr. Brown-Séquard has experimented with chloroform and other poisons have shown him how fertile is this new field of observation. It seems to him needless to insist that the unilateral effects which he has found to occur, on the side to which the poison has been applied, or on the opposite side, are clearly the result of an influence on the peripheral nerves, acting on the central nervous system, and not on an action produced on the latter by the presence of the poison in the circulating blood. Continuing his experiments on the effect of anæsthetics applied to the skin, Dr. Brown-Séquard has found that anhydrous chloral differs in its action from chloroform in that it can produce all its inhibitory and dynamogenetic effects when it is applied to a part of the skin which has been paralysed by the section of the dorsal spinal cord, or of the principal nerves. A larger dose of anhydrous chloral is, however, necessary to kill an animal which has been rendered paraplegic, when applied to the skin of the sacrum or loins, than is necessary to kill another animal of the same kind and size, but not paraplegic. A concentrated solution of chloral hydrate applied to the skin produces nearly the same general and unilateral effects as the anhydrous chloral. A rabbit weighing 1850 grammes died at the end of two hours by gradual arrest of the heart, the respiration being also weakened and retarded, and the temperature lowered. Twelve or thirteen cubic centimetres of a concentrated solution of chloral hydrate had been applied to the skin of the lumbar region, in small quantities, during twenty-five minutes. Anhydrous chloral must produce its effect by some other means than by its absorption in the form of chloral hydrate, for a cubic centimetre of anhydrous chloral killed a rabbit weighing 1600 grammes, when applied to the skin of the back, while the application of five, six, or seven cubic centimetres of a concentrated solution of chloral hydrate did not kill such animals, although it produced very marked toxic effects. The next day they had recovered their normal condition. The third communication related to the production of anæsthesia by stretching the medulla and cervical spinal cord, by bending down the head of the animal. The anæsthesia thus produced is often so pronounced that it is possible, without causing any notable suffering, to perform an operation ordinarily very painful—such, for example, as exposing the spinal cord and dividing it unilaterally. This experiment usually succeeds better in small than in large animals, but the anæsthetic effect is often very marked, even in dogs. Dr. Brown-Séquard reminded his hearers that he discovered long ago that this experiment causes a diminution, and even arrest, of the circulation and respiration, lowering the temperature, and even changing the colour of the venous blood, which, instead of its ordinary dark colour, becomes bright red.

POISONOUS FISH.

A "VICTIM" writes to the *Manchester Guardian* to complain of the diseased state of certain "very fine mackerel which are being sold in that town," and he says that two out of three of the purchased fish were "covered with hair worms or trichinæ, coiled up just under the outer skin in small rings, enveloped as it were in a small capsule." He then goes on to say that these parasites when "embedded in the body cause intense pain and very serious danger." In view of lessening the constant alarm which announcements of this kind occasion, we beg to inform our readers that the parasites in question are little nematoids, well known to helminthologists under the names of *Agamonema capsularia* and *A. papilligerum*. They are sexually immature worms awaiting their final destiny within the body of some larger fish. The human frame is not the ultimate bearer of these parasites, and therefore it matters little whether the mackerel be eaten well cooked or otherwise. More than a dozen species of entozoa plague the unfortunate mackerel, but none of them are dangerous to man.

VACCINATION IN JARAN.

THE medical men despatched last year from the Ozaka Hospital to Riukiu are (says the *Japan Weekly Mail*) likely to be in much request among the islanders. Measures are about to be taken for performing vaccination on a large scale, and, small-pox having always been regarded with great horror by the people, they are quite ready to fall in with the proposal. The disease has hitherto been looked upon as a judgment from heaven; if one member of a family fell ill with the malady the whole household was shunned, and the victim, from want of medical care and treatment, invariably died. Isolation appears to have been rigidly enforced in the case of infected districts, and this measure has kept the disease in abeyance; but prophylaxis commends itself to the thinking part of the population, and the Ozaka surgeons will probably have a busy time from the commencement of next month, when vaccination will be inaugurated.

FRACTURED SKULL IN AN INFANT.

THE difficulty of diagnosing a fractured skull in an infant is well known, and the necessity of being aware of its possibility in a case of accident, even when there are no marked symptoms, is brought strikingly before the profession in the case which has occupied so prominent a place in the papers during the past week. An infant, aged two years, was run over on the 1st inst., and was taken to the Seamen's Hospital, Greenwich. The child was kept in the hospital until the 5th inst., and showed no symptoms whatever. There were no convulsions, vomiting, coma, or partial paralyses—indeed, except the bruises, there was no indication of anything serious having taken place, and so the child was discharged on the non-appearance of anything that would warrant its detention. The mother, on its discharge, was urged to have medical superintendence, so that if anything untoward should occur, prompt action should be taken. Two days after the discharge from the Seamen's Hospital it was removed to the East London Children Hospital at

Shadwell, where it died on the next day. On post-mortem examination a fractured skull was found to be the cause of death. At the inquest it was attempted to be shown that the child was improperly discharged from the Seamen's Hospital, and that the sister of the ward was to blame, but the evidence at once cleared her from any such interference with treatment of the case. Mr. Johnson Smith, the resident surgeon, had ordered the removal of the child because there had been scarlet fever recently in the hospital, and because the child had shown no symptoms except from the bruises. In so doing he acted quite properly and in accordance with the instructions of the Hospital authorities—viz., to detain cases of emergency (not being sailors), until the urgent symptoms have passed off. Some of the comments on the case which have appeared would seem to have been written in complete ignorance of the elementary surgical principle that a fractured skull does not necessarily betray its existence by giving rise to marked symptoms.

THE LONDON FEVER HOSPITAL.

THIS admirable institution is living on its capital, and unless an unusual sense of its claims takes possession of the public very quickly there is a fear that it will have to be closed or greatly curtailed in its usefulness. The subscriptions amount only to £699 per annum, and, at the present rate of expenditure, the funds will hold out only two years more. We know no hospital more worthy of public support than this. Last year there were under treatment in it 1012 patients, most of them cases of scarlet fever. When it is remembered that this hospital has every provision and accommodation for the treatment of patients themselves, and that by taking them in the remaining members of the household would probably be saved from infection, the claim of the charity upon the benevolent public will be seen to be strong, indeed—a claim which is not lessened by the fact that the hospital is now devoted to the care of those who can pay more or less towards their maintenance.

THE CORONERSHIP FOR CENTRAL MIDDLESEX.

DR. DANFORD THOMAS, the Deputy of the late Dr. Hardwicke, is now the only medical candidate in the field for the vacant coronership of Central Middlesex. As such he is entitled to, and has an irresistible claim upon, the support of the profession. The question at issue is one of principle, and Dr. Danford Thomas may be trusted to discharge loyally and efficiently the duties of the office for which he is a candidate.

DRUNK OR DYING?

ANOTHER lamentable case has occurred to warn medical men of the difficulty of deciding the exact nature of cases of insensibility brought suddenly under their notice. The case in question was the subject of an inquest before Mr. Humphreys. It was that of a young woman picked up insensible in the City-road last week. She was carried about from place to place in a way that is not pleasant to think of. First she was taken to Dr. Powell's house, who very naturally sent her to St. Bartholomew's Hospital. Here, after the use of the stomach-pump, and having so far recovered as to "answer questions incoherently," she was remitted to the care of the police at the Station for six hours. Thereafter she was sent to the Holborn Infirmary, City-road, where she died. Dr. Yarrow, at a post-mortem, found the cause of death to be extravasation of blood. There is a difference of opinion as to whether alcohol had anything to do with her condition. Dr. Powell, in a letter to the *Daily Telegraph*, says that she did not smell of alcohol, and sent a very careful message to the hospital by the police, expressing his opinion that the case was one of injury to the brain, and not of drink. Under all the circumstances, we regret that the patient was not detained at the hospital. As errors of diagnosis are so easy, and yet of such grave consequence, it surely would be a safe rule to keep doubtful cases at least twelve hours under observation, if not longer. The jury returned a verdict of "Accidental death."

THE VICTORIA UNIVERSITY.

THE new northern university has decided to grant degrees in Science without requiring from the graduates any knowledge of Greek or Latin. Even the graduates in Arts are only expected to satisfy the examiner in Latin and Greek at the preliminary examination. Whether the neglect of the classics in favour of more "useful" subjects is likely to be of permanent benefit to the interests of education or not may be a moot question, but there can scarcely be any doubt that no place is more appropriate for testing modern ideas of the nature of education than a modern university. If the accumulation of knowledge be the end and aim of education, no means to attain this object is more suitable than that offered by a brand-new university in a thriving commercial city. The older seats of learning at Oxford and Cambridge are too closely attached to their traditions to be trusted to identify themselves at once and for ever with the utilitarian theory of education. The future alone can show whether a man will be a better physician, or chemist, or engineer, or mathematician, when he has had no other training than that obtained by the study of his own special branch of science, and knows nothing that lies outside that narrow region.

THE APPOINTMENT OF MEDICAL OFFICER OF HEALTH FOR HASTINGS.

THE following memorial is, we are informed, being numerously and influentially signed for presentation to the Mayor of Hastings:—

"We, the undersigned inhabitants of the borough, do respectfully ask you to convene at your earliest convenience a public meeting, to protest emphatically against the late appointment of Medical Officer of Health against the general wish of the inhabitants, and which we consider calculated to do infinite damage to the trade and prosperity of the town by bringing disrepute upon it as a health resort, which is assuredly evinced by strictures passed in the leading medical journals, and is thus brought under the notice of the profession, who will assuredly refrain from recommending their patients to come here if such appointment be maintained."

CLOSING THE FULHAM SMALL-POX AND FEVER HOSPITALS.

THE Association for closing the Fulham Small-pox and Fever Hospitals is making head-way in an assault on the institution alleged to be injurious to the immediate neighbourhood. A large and influential committee has been formed, and guarantees and subscriptions have been received to an amount enabling the enterprise to be carried out in its entirety.

THE question of Hospital Reform is agitating the minds of the medical community at Melbourne. The *Australian Medical Journal* says the first urgent necessity is the appointment of a senior resident surgeon in the hospital of that city, in whom should be vested the powers in connexion with the internal administration of the charity now exercised by the secretary. Our contemporary declares that the statistics at present furnished are utterly worthless, and that many other matters of no slight importance require alteration to make the working of the institution satisfactory.

THE medical depôt at Allahabad, under the charge of Surgeon-Major J. B. S. Brown, medical storekeeper, was completely burned to the ground on the 2nd April; only the quinine and opium were saved. The fire broke out at 2 P.M. in a room containing ether and acids. The loss to Government is estimated at £30,000. This important depôt, which supplies the whole of the North-West Provinces and Oude, had only recently been removed from the fort to an old thatched and tiled barrack far away from the present cantonments, but near the old cantonments now occupied by a native cavalry regiment.

THE first examination this year of candidates for medical diplomas in Japan was brought to a conclusion in Tokiyo on the 3rd instant. The number of applicants was seventy, of whom thirty withdrew in the early stages of the trial, and of the remaining forty, not more than half are believed to have been successful.

THE Introductory Lecture to the Course on Public Health at University College will be delivered by Professor Corfield on Tuesday next, May 2nd, at 4 P.M., and the course will be continued on succeeding Thursdays and Tuesdays at the same hour.

THE death is announced of Dr. Richard Oswald Cowling, Professor of the Principles and Practice of Surgery in the University of Louisville.

THE Harveian Lectures this year will be given by Dr Alfred Meadows. The subject will be "On Menstruation and its Derangements."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Erith (*Urban*).—Mr. Fredk. B. Jessett's report for this district for the past year shows that the sanitary authority has not been entirely inactive, and that "they are considering even an elaborate and thoroughly exhaustive plan" for draining the whole parish, but that this question has not yet passed beyond the stage of consideration. Nevertheless we learn that in this charmingly situated locality "the privies are as bad as ever," and that one foul ditch, at least, and a stinking open cesspool, may be permitted to exist without apparently disturbing the equanimity of the sanitary authority. In one respect, however, the sanitary authority is setting an excellent example to the several river-side sanitary authorities which exist on both banks of the river from Bow Creek to Gravesend. Mr. Jessett reports that the local board has been taking very active measures to abate the nuisance arising from the different factories along the river, and with a result that ought to encourage even more active efforts, and induce the other river-side sanitary authorities to join with them. The offensive trades which have been driven out of the metropolis—the artificial manure makers, workers of various kinds in tallow, glue and varnish manufacturers, &c.—have taken up their abodes in the long line of marshy districts situated on both banks of the Thames below Bow Creek. There wholly uncontrolled they have been suffered to settle, and have reproduced and are reproducing in the most reckless manner the nuisances which rendered their presence in the metropolis intolerable. The sail along the Thames to and from Greenwich, which only a few years ago was one of the greatest enjoyments to the Londoner, is gradually becoming, from the offensive trades practised and increasing on the banks of the river, one of the most unpleasant experiences in stinks and smoke which can be conceived, and this wholly from the neglect of the local authorities. Self-interest, in view of the slowly approaching destruction (if this be not stayed) of the residential value of the higher grounds bordering the Thames on this part of its course, it might have been thought would have induced earlier protective action on the part of the river-side authorities. But no; hence the action of Erith is all the more welcome. The death-rate of Erith in 1880 was 14·64 per 1000 of the population.

Doncaster (*Urban*).—Estimated population, 1880, 22,000; birth-rate 34·5 per 1000 inhabitants; death-rate 24·8 per 1000. Mr. J. B. Withington gives great attention to the death-rate among infants and young children in the district, "more than half" of the deaths recorded in 1880 having been among children under five years of age. This "startling fact," as he justly phrases it, calls for the most earnest consideration of the sanitary authority, and Mr. Withington devotes the main portion of his report to discussing it. Of the large proportion of deaths among infants assigned to wasting diseases and diarrhœa, he observes: "The extreme fatality from these two classes of disorders points very strongly to want of proper feeding and attention during infancy, a general experience being that mothers of the poorer class very commonly give their young infants solid or otherwise improper foods, whereas it is an established rule that, generally speaking, nothing beyond the nourishment afforded by nature should be given for the first three or six months; and improper feeding is a most frequent cause of diarrhœa and wasting." Doncaster has just completed a system of new water-works for the supply of the population, but this important town does not appear to possess any hospital accommodation for infectious diseases.

Newton Abbot (*Rural*), *and Walborough and Dawlish* (*Urban*) *Combined Sanitary Districts.*—Mr. Leonard Armstrong's reports for 1880 for these combined districts are full of interest as showing their condition during a period when the presence of fatal epidemic disease among children disturbs the even current of sanitary administration. Newton Abbot, with an estimated population of 25,619, had a birth-rate of 29·4 per 1000 inhabitants, and a death-rate of 18·42. Measles and whooping-cough troubled the year, and diarrhœa, which had been little fatal in 1879, again became prominent in the mortality of 1880. Writing of the diarrhœa, Mr. Armstrong says: "This increase is due to the higher temperatures of the year. Warmth by itself does not, probably, produce sickness, but acting on inorganic matter in and about our dwellings, it promotes decomposition, and fills the atmosphere with unhealthy exhalations that envelop, as in a fog, the houses and inmates of ill-ventilated localities. Children get fatal diarrhœa from breathing these unwholesome exhalations, and fever is, I believe, the consequence in some of older growth."

Bisley, Urban (*Gloucestershire*).—Dr. Partridge reports for this district during 1880 a birth-rate of 30·3, and a death-rate of 18·2, per 1000 of the inhabitants on an estimated population of 5273. He comments on the high infantile mortality, and confesses to the difficulty he experiences in tracing the swollen rate to its true origin; but he expresses the opinion that to some extent he has reason to believe that it arises from bad nursing and dietary.

THE SMALL-POX HOSPITAL DEADLOCK IN THE METROPOLIS.

Instances of the evil consequences of the present stop put to the increase of hospital accommodation for small-pox cases in the metropolis are beginning to multiply, and it will be well if we have not to learn from experience that there may be worse evils than those which have already arisen from the incidental augmentation of small-pox cases about existing hospitals. We learn from various parts of the metropolis that the present hospital accommodation for small-pox is exhausted, and that patients are accumulating in their own dwellings without any check upon the spread of the disease among their neighbours or other occupants of rooms in the same house. This state of matters is apt to have far-reaching consequences when the family affected is engaged in tailoring, or as seamstresses, or in laundry work. More than one instance of laundry work being carried on in houses in which one or more cases of small-pox existed have been brought to our knowledge. Some feeble efforts are being made by the local sanitary or Poor-law authorities to supplement the hospital accommodation of the Asylums Board, and we learn with pleasure that there is a likelihood of the Poplar Sanitary Hospital being now brought into use for districts in the east of London.

INFECTIOUS DISEASES.

A deputation from several societies concerned in promoting public health waited upon the President of the Local Government Board on Tuesday last, to urge the desirability of securing the public notification of infectious diseases, and the provision of more efficient means of isolating persons suffering under such diseases. The deputation was introduced by Mr. Hastings, M.P., and Dr. Farquharson, M.P. Mr. Dodson, after listening to the arguments of various members of the deputation, expressed his sense of the importance of the subjects brought forward, but referred to certain difficulties in the way of carrying out the suggestions advanced, and reminded the speakers that the sanitary authorities throughout the country had power to provide hospitals, though it had not been exercised to any large extent. In answer to a question by the right honourable gentleman as to the comparative danger of concentrating patients in a few centres, or distributing them in a large number of small districts, Mr. Dudfield said a district like Croydon, for instance, should have a hospital to itself; but it would be absolutely dangerous to have a separate hospital in the forty different districts of the metropolis.

PUBLIC HEALTH MATTERS IN KENSINGTON.

Dr. Orme Dudfield's report on the health of Kensington for the four weeks ending March 26th is, perhaps, not so much of interest as concerns the district to which it specially refers, as from the incidental matters it deals with affecting the metropolis at large; not that it does not contain matter even as regards the Kensington district which deserves careful perusal, particularly in reference to the spread of small-pox by unrecognised and modified cases of disease. The cases related by Dr. Dudfield of this sort and of the mischief arising therefrom are of considerable value; but to persons living outside the limits of Kensington the interest of the report will chiefly consist in the observations made on the Hampstead Hospital Case, the action of the Fulham District Board of Works with reference to the Fulham Small-pox Hospital, on the desirability of local hospitals, the action of the Kensington Vestry with reference to the question of the compulsory notification of infectious diseases in the metropolis, &c. On these several subjects Dr. Dudfield conveys information which we are glad to have in an authoritative and readily accessible form.

A notice has been given for discussion at the Fulham Board of Guardians "that it be a suggestion from this Board to the Local Government Board that it is desirable to provide accommodation for small-pox patients in hulks on the river at its broadest part below Erith with all requisite arrangements as to disinfectants, and for kindly removal of patients, with the object of providing perfect hospital accommodation and avoiding the alarm in populous districts of hospitals being placed in their midst." It is curious how the practically insuperable difficulties of placing infectious disease hospital-ships along the course of a great highway should have escaped the attention of the proposer of this suggestion.

Colonel Bolton's report, as water examiner, of the water supplied by the Metropolitan Companies in March shows that the water in the Thames was good in quality from the 1st to the 4th of March, when it became bad and continued so until the end of the month. The water in the River Lea was generally good throughout the month. As a rule the water delivered was efficiently filtered, the Chelsea and Grand Junction Companies alone, according to Dr. Frankland, failing in this matter.

In consequence of the increase of small-pox in the City, Dr. Sedgwick Saunders has thought it desirable to suggest the provision of additional hospital accommodation. A member of the Commission at a recent meeting suggested the use of the port-hospital ship at Gravesend, and was surprised to find that this ship was not even used for cases of small-pox occurring in the Pool. It seems to us that the suggestion was impracticable.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

English urban mortality showed a slight decline last week. In twenty of the largest English towns, estimated to contain in the middle of this year nearly a third of the entire population of England and Wales, 4986 births and 3211 deaths were registered last week. The births were 200, and the deaths 40, below the average weekly numbers during 1880. The annual rate of mortality in the twenty towns, which had slowly but steadily increased from 20·6 to 22·9 per 1000 in the five preceding weeks, declined last week to 22·0. The lowest rates in the twenty towns last week were 17·2 in Portsmouth, 17·5 in Norwich, 17·7 in Salford, and 17·9 in Bradford. The rates in the other towns ranged upwards to 25·8 in Wolverhampton, 27·3 in Liverpool, 28·3 in Plymouth, and 29·9 in Newcastle-upon-Tyne. During the first three weeks of the current quarter the death-rate in the twenty towns averaged only 22·4 per 1000, against 25·0, the average rate in the corresponding periods of the five years 1876–80.

The deaths referred to the principal zymotic diseases in the twenty towns, which had been 315, 339, and 410 in the three preceding weeks, declined to 382 last week; these included 85 from small-pox, 84 from whooping-cough, 71 from measles, 63 from scarlet fever, 22 from diphtheria, and 31 from fever, principally enteric. The annual death-rate from these principal zymotic diseases averaged 2·6 per 1000 in the twenty towns, and ranged from 0·4 and 0·8 in Hull and Bradford, to 3·1 and 3·8 in Newcastle-upon-Tyne and Portsmouth. The general fatality of measles, scarlet fever, and whooping-cough was considerably below the average for the season. The 22 deaths referred to diphtheria in the twenty towns exceeded the numbers in recent weeks, and included 10 in London, 7 in Portsmouth, and 2 in Plymouth; this disease has been more or less fatally prevalent in Portsmouth for some months, but the fatal cases last week considerably exceeded any recent weekly number. The highest death-rates from fever occurred last week in Portsmouth and Bristol. Small-pox caused 88 more deaths in London and in its outer ring of suburban districts, and one in Liverpool; no fatal case was, however, recorded in any of the eighteen other provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had increased from 820 to 940 in the three preceding weeks, further rose to 963 on Saturday last; the number of new cases admitted to these hospitals last week was 227, against 224 and 244 in the two previous weeks.

The deaths referred to diseases of the respiratory organs in London, which had slowly increased from 345 to 395 in the five preceding weeks, declined to 338 last week, and were 38 below the corrected average number in the corresponding week of the last ten years; they included 211 from bronchitis and 89 from pneumonia. The annual death-rate from lung diseases, exclusive of phthisis, was equal to 4·7 per 1000 in London last week. The rate from the same disease was no less than 8·8 in Liverpool.

The causes of 80, or 2·5 per cent., of the deaths in the twenty towns last week were not certified either by a registered medical practitioner or by a coroner. The proportion of uncertified deaths did not exceed 0·9 per cent. in London, whereas it averaged 4·0 per cent. in the nineteen provincial towns. No uncertified deaths were recorded last week in Brighton, Portsmouth, Norwich, Leicester, or Nottingham; whereas the proportions of such deaths were largest in Sheffield, Salford, Bradford, and Newcastle-upon-Tyne.

HEALTH OF SCOTCH TOWNS.

In eight of the largest Scotch towns, having an estimated population of rather more than a million and a half persons, the annual death-rate last week was equal to 20·9 per 1000, showing a further decline from the rates 23·5 and 22·1 that prevailed in the two preceding weeks; this rate was 1·1 below the average rate in the twenty English towns. The rates in the eight Scotch towns ranged from 12·1 and 14·6 in Leith and Greenock, to 23·7 and 29·2 in Aberdeen and Perth. The deaths referred to the principal zymotic diseases in the eight towns, which had been 82 and 69 in the two preceding weeks, rose last week to 84; they included 24 from whooping-cough, 15 from scarlet fever, 15 from measles, 12 from diarrhœa, 11 from "fever," 7 from diphtheria, and not one from small-pox. The annual death-rate from these zymotic diseases averaged 3·3 per 1000 in the eight towns, which was 0·7 above the average rate from the same diseases in the twenty English towns. This zymotic death-rate in the eight Scotch towns ranged from 0·6 and 1·0 in Greenock and Dundee to 4·9 and 5·8 in Edinburgh and Perth. The 24 fatal cases of whooping

cough corresponded with the number in the previous week, and included 10 both in Glasgow and Edinburgh. The deaths from scarlet fever, which had been 6 and 10 in the two previous weeks, further rose to 15 last week, of which 9 occurred in Edinburgh, 3 in Glasgow, and 2 in Leith. The 15 deaths from measles also showed a considerable increase upon recent weekly numbers; of these 13 were recorded in Glasgow and 2 in Aberdeen. Nine of the 12 deaths from diarrhœa were returned in Glasgow. The 11 deaths referred to "fever" (typhus, enteric or typhoid, and simple continued) showed an increase of 4 upon those in the previous week, and included 6 in Glasgow and 2 in Aberdeen; the annual death-rate from this cause considerably exceeded that which prevailed in the twenty English towns during the week. The 7 deaths from diphtheria showed a decline from the numbers in recent weeks; 3 occurred in Edinburgh and 2 in Glasgow. The deaths referred to acute diseases of the lungs in the eight towns, which had been 163 and 144 in the two preceding weeks, further declined to 135 last week, and were equal to an annual rate of 5·3 per 1000, against 4·3 from the same diseases in London. The greatest proportional fatality from lung diseases in the Scotch towns occurred last week in Glasgow, Aberdeen, and Paisley.

HEALTH OF DUBLIN.

The rate of mortality in Dublin increased again last week. The annual death-rate in the city, which had pretty steadily declined in the twelve preceding weeks from 47·4 to 29·0, rose again last week to 32·6. During the first three weeks of the current quarter the death-rate in the city averaged 30·8 per 1000, against 22·4 in London and 21·5 in Edinburgh. The 208 deaths in Dublin last week showed an increase of 23 upon the number in the previous week; they included, however, 9, or little more than 4 per cent., which were referred to the principal zymotic diseases, against numbers declining from 19 to 12 in the four preceding weeks. These 9 deaths from zymotic diseases included 4 from whooping-cough, 2 from fever (typhus, enteric or typhoid, and simple continued), 2 from scarlet fever, 1 from diarrhœa, and not one either from small-pox, measles, or diphtheria. The annual death-rate from these zymotic diseases did not exceed 1·4 per 1000 in Dublin last week; whereas it was equal to 3·5 in London and to 4·9 in Edinburgh. The deaths referred to fever in Dublin, which had been 8 and 7 in the two previous weeks, further declined to 2 last week, and were fewer than in any week for many months; the annual death-rate from this cause in Dublin last week was only slightly in excess of the average rate in the twenty English towns. The 4 deaths from whooping-cough in Dublin exceeded the numbers in recent weeks, while the fatal cases of other zymotic diseases were again remarkably few. The deaths of infants were more numerous last week, whereas those of elderly persons showed a further decline from recent weekly numbers.

VITAL STATISTICS OF MELBOURNE IN 1880.

Mr. H. H. Hayter, the Government Statist of Victoria, has just published an analysis of the vital statistics of Melbourne for the year 1880. The population of the Statistical District of Melbourne and Suburbs, embracing a radius of ten miles, was estimated at 270,264 persons in the middle of 1880. The birth-rate in the city was equal to 32 per 1000 persons living, and was considerably lower than in any year of the preceding decade; the mean birth-rate in the ten years 1870–79 was 34·3 per 1000. The recorded deaths were equal to a rate of 19·2 per 1000, corresponding with the rate in 1879, but 1·3 below the mean rate in the ten years 1870–79. The deaths of children under five years of age were equal to 40 per cent. of the total mortality in the city, differing but slightly from the proportion prevailing in recent years. The 2088 deaths of children under five years of age included 1439 infants who had not completed their first year of age; these showed a rate of infant mortality equal to 166 per 1000 births recorded. Compared with the low gross death-rate, the rate of infant mortality in Melbourne showed a marked excess during 1880. Rather more than 9 per cent. of the deaths were of persons aged upwards of sixty years; this proportion, however, was considerably below that which usually prevails in English towns. The deaths referred to zymotic diseases in Melbourne and suburbs during the year were 1062 or 20·5 per cent. of the deaths from all causes; these included 174 from measles, 138 from enteric fever, 53 from whooping-cough, and 370 from diarrhœal diseases. These zymotic deaths showed a decline of 104 from the number in the preceding year. Measles, however, appeared in an epidemic form for the first time since 1875. It caused, however, only 174 deaths, whereas it caused 508 deaths in 1875. Typhoid fever was less fatal than it had been for many years, and the 138 fatal cases were fewer by 57 than the number in 1879. Puerperal mortality caused 45 deaths, of which 3 resulted from childbed fever; these gave a proportion of 5 deaths of mothers to each 1000 infants born alive, which differs but slightly from the average proportion in England and Wales. The high rate of infant mortality, and the comparatively large proportion of deaths from zymotic diseases, suggest that the true gross death-rate must be higher than that reported by Mr. Hayter. This return, however, does not afford the means for surmising whether this under-statement of the death-rate is due to incomplete registration, or to an over-estimate of the population of the city. It is beyond question that the mortality statistics of Melbourne for 1880 afford abundant evidence that the sanitary condition of the city is not so satisfactory as would be indicated by a gross death-rate of 19·2 per 1000.

HEALTH MATTERS GENERALLY AT HOME AND ABROAD.

THE ISLEWORTH SEWER-BROOK.

The Thames Valley sewerage question in its broad aspect is still we fear as far from solution as ever, and the sooner therefore the different localities along the river-bank begin to look after their own interests the more likely they will be to escape those epidemics which are inevitably in store for those who neglect the first laws of health. By the side of the Station-road at Isleworth there runs what might be called a brook, but which is really nothing but an abominable stinking open sewer, which carries the sewage of Springgrove and part of Hounslow to the much suffering Thames. That in a district where every house has its garden, and where market-gardens are measured by the thousand acres, such valuable matter should be allowed to work mischief instead of good is to us a mystery. We believe an action has already been brought by a public-spirited inhabitant against the local Board to compel them to abate or abolish the nuisance; but such action was unsuccessful, and indeed it seems to us a very difficult matter for a Board to deal with. It is a matter which concerns individuals rather than Boards. No man by the present law of England is allowed to pollute a river, and we should advise that, instead of bringing an action against a "Board," actions should be brought against the individuals who pollute the stream. Let the public-spirited parishioner who brought the previous action bring another against his neighbour on the banks of the sewer-brook, and compel him to dispose of his sewage either upon his own garden or the gardens of the market-gardeners. One successful action would carry the rest; the individuals would recoup by their increased garden produce what they expend in alterations, and the district would be saved a high "rate" to pay for some sewerage scheme, the success of which must necessarily be a matter of doubt.

THE ABERDEEN EPIDEMIC.

The outbreak from diseased milk has now subsided, no new cases having been reported, and most of those who were attacked having recovered. A public inquiry into the cause and nature of the outbreak has been ordered by the Board of Supervision, and a commission consisting of A. Rutherford, Advocate, and Dr. Littlejohn, Edinburgh, began its sittings on Monday, with the view of obtaining all the evidence available to facilitate the inquiry.

The Factories Act, 1881, recently promulgated in India, prohibits the employment of children in factories other than indigo and tea and coffee factories under seven years of age, and provides for the regulation of the employment of children employed in factories between the ages of seven years and twelve, as also for the due inspection of factories.

The National Health Society has arranged for the delivery of a series of drawing-room lectures at 23, Hertford-street,

Mayfair (the residence of Chas. Matthews, Esq.), on every Friday until and including May 27th. Among the lecturers are Dr. Robert Farquharson, M.P., Mr. C. N. Cresswell, Mr. Henry Power, and others. Communications should be addressed to Miss Lankester, the Secretary, at the Society's Offices, 44, Berners-street, Oxford-street.

THE SERVICES.

THE TRANSVAAL WAR.

Papers and letters by the last Cape mail supply us with some details of information which will be read with interest by the many friends of our medical officers at the front. The base hospital of the Transvaal Field Force at Fort Amiel, Newcastle, consists of thirteen huts and two marquees. Each hut holds twelve patients. The hospital accommodation was also temporarily increased by utilising some ordnance store-sheds for the heavy and unexpected influx of wounded after the battles of Ingogo and Majuba Hill. Altogether provision was made by Mr. Holloway, the Principal Medical Officer, for over three hundred sick. Surgeon-Major J. A. Scott, M.D., has assumed the duties of senior medical officer, Transvaal Field Force, vice Surgeon-Major T. Babington, who remains in charge of the field hospital, Mount Prospect. Mrs. Hawthorne, wife of Colonel Hawthorne, R.E., Miss Williams, three sisters from Bloemfontein, with a staff of trained orderlies of the Army Hospital Corps, are detailed for nursing duty under Surgeon-Major Stokes, the medical officer in charge. Many of the wounded are described as being very serious cases: one man was riddled with eleven bullets; but owing to a good climate, skilled nursing, with ample supply of medical comforts, food, &c., the mortality has been very slight, and the wounded are reported doing well. Milk is brought to the hospital daily from a farm in the neighbourhood. The ladies of Newcastle have been most kind in sending jellies, pillows, easy chairs, papers, and books for the invalids.

The Bearer Company was inspected by Deputy Surgeon-General Holloway on Feb. 28th at Pietermaritzburg, previously to its marching for the front. Convoys of sick and wounded able to travel are ordered to proceed from Newcastle and the frontier posts towards Durban, so as to relieve the field hospitals. Rest camps have been formed at Ingegane, Pilgrim's Rest, Sunday River, Colenso, Est Court, Moore River, Carey's Fort, and Howick. At Ladysmith a field hospital complete for thirty beds has been established under a medical officer. The trained nurses sent out from Netley arrived at Cape Town in the *Warwick Castle* on Feb. 28th, and proceeded at once to Durban *en route* to Newcastle.

Deputy Surgeon-Generals C. D. Madden, M.D., and J. Hanbury, C.B., are on passage home from India.

Brigade Surgeon Ekin has obtained leave of absence from India on medical certificate.

Surgeon-Major F. B. Scott, M.D., has been ordered to Dover for duty in the South-Eastern District on return from the Cape.

WAR OFFICE.—1st Life Guards: Surgeon Seton Guthrie Hamilton, from the Army Medical Department, to be Surgeon, vice T. W. Thompson, resigned.—Grenadier Guards: Surgeon Ernest Harrold Fenn, from the Army Medical Department, to be Surgeon, vice W. H. Pickford, promoted into the Scots Guards.—Scots Guards: Surgeon William H. Pickford, M.B., from the Grenadier Guards, to be Surgeon-Major, vice F. Robinson, M.D., retired.

ARMY MEDICAL DEPARTMENT.—Surgeon-Major Henry Hummerston Burford has been placed on temporary half-pay on account of ill health; Surgeon Albert Kirwan to be Surgeon-Major; Surgeon Francis George Adye-Curran, M.B., to be Surgeon-Major.

ADMIRALTY.—In accordance with the provisions of Her Majesty's Order in Council of 1st April, 1881, Fleet-Surgeon John Caldwell has been placed on the Retired List, with permission to assume the rank and title of Deputy Inspector-General of Hospitals and Fleets. Fleet-Surgeon John Frederick Mitchell has been placed on the Retired List of his rank from the 18th inst. Fleet-Surgeon Leonard Lucas has been placed on the Retired List from the 18th inst., with permission to assume the rank and title of Retired Deputy Inspector-General of Hospitals and Fleets from the same date. Surgeon Matthew Fletcher Ryan has been promoted to the rank of Staff-Surgeon in Her Majesty's Fleet, with seniority of 1st inst.

The following appointments have been made:—Henry Mark Scott to be surgeon and agent at Enniscrone, vice MacMann; Robert Roberts to be surgeon and agent at Portmadoc (new appointment); Staff-Surgeon A. G. Colquhoun to the *Iris*, vice Johnson; Staff-Surgeon T. D. A Bromlow, M.D., to the *Pembroke*, vice Colquhoun.

DR. KIDD'S "LAWS OF THERAPEUTICS."

As Dr. Kidd has not replied to our queries appended to his letter of the 16th inst., and as there is some little doubt in the minds of the medical profession as to the exact attitude assumed towards it by Dr. Kidd, we think it advisable to print a few extracts from the second edition of his book on "The Laws of Therapeutics," published in 1881. In Chapter I. we find—

"I have endeavoured to forget men and their systems, and to search for truth—for all truth. The true student of nature ever delights to lay self aside, to present his offering to the growth of knowledge and withdraw.....The physician should endeavour to ascertain if the good providence of God has ordained exact laws for the selection of curative agents in the treatment of disease. If such laws exist, how solemn the position of those who would reject them! The most pressing question at the present time for the physician is whether the treatment of disease is to depend on mere opinion which varies with each doctor, and perishes with the individual, or on laws which, founded on the immutable truth of facts, can never perish, but must endure through all ages?.....The practice of physicians thirty years ago is at present regarded as worse than useless. If law had governed their practice, the truth in that practice would have remained as the inheritance of science, available for their successors—truth can never perish."

Of Hahnemann he says, "It then occurred to him that *the reason why cinchona cures ague* is because of the power inherent in it to *produce symptoms* in a healthy person similar to those of ague. From this the system of homœopathy became gradually evolved, after many years of patient labour in proving upon his own person the qualities or actions of various medicines. Gradually also he began to lessen the amount of dose, not by any logical deduction from facts, but rather from an arbitrary conceit of his own fancy, till he broached the mystical doctrine of infinitesimal doses and of dynamisation" (p. 29)....."Truth is greater than Hahnemann, and of late years his speculations about psora and infinitesimal doses have been tacitly given up by all the most skilful and intelligent of his followers.....Twenty-seven years ago I saw that the essential truth of Hahnemann's law was totally independent of his speculations about dynamisation. Adopting with great delight the law of *similia similibus curantur* as the chief though not the only foundation for therapeutics, I learnt for myself that Hahnemann 'sober,' teaching the use of the pure undiluted tinctures, was a far better guide to heal the sick than Hahnemann 'drunk,' with mysticism calling for the exclusive use of infinitesimal doses. The latter I gradually cast aside *in toto* as untrustworthy and unjust to the sick, whose diseases too often remained stationary under treatment by globules, but were most effectually and quickly cured by tangible doses of the same medicines which failed to cure when given in infinitesimal doses."

The law of "*similia similibus curantur*" being "the chief though not the only" law of therapeutics, what, it will be asked, are the other laws which are to guide us in the treatment of disease? On p. 94 we find:—"Looking to the observations of facts, apart from the theoretic speculations, two primary laws of therapeutics unfold themselves. As Galvani and Faraday have afforded names for Galvanism and Faradism, those two laws of therapeutics may well be called Galen's law, or the antipathic founded upon the rule of *contraria contrariis*, and Hahnemann's, or the homœopathic law, founded upon the relationship of similars." Again, at p. 121:—"Rejoicing to enlarge the boundaries of knowledge, true science cannot ignore any law, though its sphere of action be limited and not of universal application. Galen's

law of *contraria contrariis* has its place, and a very prominent place, still in the practice of every physician."

We are ready to admit that, to the superficial observer, it may sometimes appear that diseases are cured by drugs which produce symptoms similar to the disease. For example, a glass of brandy will sometimes steady a tremulous hand. Again, diseases are sometimes cured by drugs which produce opposite symptoms. These stray facts, however, are quite distinct from laws, and we cannot understand how any man can be found to give the name of exact laws to a few scattered facts which, if they are to be regarded as "laws," are evidently mutually destructive. When Newton stated that "*masses attract each other with a force which varies according to the inverse square of the distance*," he enunciated a "law," but Dr. Kidd's "Laws of Therapeutics" have clearly no claim to be placed in the same category.

The closest resemblance which exists between the effect of a disease and the effect of a drug is to be found between tetanus and the action of strychnia, and it is natural to turn to these instances to see whether Dr. Kidd has succeeded in curing many cases of tetanus by adhering to those laws which have, according to him, been ordained "by the good providence of God." At p. 106 it is stated that "it would be justifiable, I conceive, to give the strychnia in the hope that it might occasion a morbid action which would supersede the morbid action of the disease [tetanus], and yet be less perilous and more manageable than it. This, were it successful, would be a cure according to the Hahnemannic doctrine—*similia similibus curantur*—a doctrine much older, however, than Hahnemann." This is a quotation from Sir Thomas Watson, and on p. 128 is another quotation from the same author. "Sir Thomas Watson, writing of the use of strychnia, says, 'If the dose be too large, a temporary aggravation of the disease may show itself for a time.'" These two quotations might lead the non-medical reader (and Dr. Kidd probably has many such) to think that Sir Thomas Watson advocates the use of strychnia in tetanus. A reference to the last edition of his classical work shows such not to be the case, but no reference to the exact source of the quotations is given.

On p. 127 we find "when the reflex irritability of the spine is increased, as in tetanus, a most minute dose of strychnia, $\frac{1}{10}$ of a grain, will increase that irritability and bring on muscular jerking." These are all the references we can find to the most exact parallel which is known to exist between a disease and the effects of a drug, and of these three references for only one is the author responsible, and this shows clearly that if the law of Hahnemann (and "how solemn the position of those who would reject it!") is to be followed, Hahnemann "drunk," as Dr. Kidd says, would be a far safer person at your bedside than Hahnemann "sober."

Let us leave this trifling exception to "law," and turn to Dr. Kidd's book for examples of the real good of following up the dogma of "*similia similibus*." The prevention of small-pox by vaccination is claimed as an example of the law, and in 1850 Dr. Kidd cured an obstinate case of eczema in a child by revaccinating it, "the principle of *similia similibus* suggesting the remedy." "*Scores of vaccine vesicles* appeared all over the back, shoulders, arms, and chest" (p. 101), and the child got well. Now, eczema is, perhaps, the commonest of the chronic diseases of childhood, and Dr. Kidd must have had opportunities of curing thousands of other cases in the same way, unless he has incurred the solemn responsibility of upsetting his divine law. No other case is mentioned, however. On page 102 we find, "The action of diuretics is very closely allied to the process at work in certain diseases of the skin. The benefit to be derived from such is well illustrated by Dr. Tilbury Fox." In 1854 Dr. Kidd cured a lady of gall-stones by giving her ox gall (p. 103). On p. 104 a woman is mentioned who was cured of acidity and spasm by taking lemon-juice after meals. In 1869 a woman was cured of floodings and threatenings of miscarriage by four leeches over the right ovary. In 1850 a case of exophthalmic goitre was relieved by belladonna. In 1868 chronic cough, in a young lady, was cured by Fowler's solution, and in 1861 an irritable bladder was relieved by one drop of tincture of cantharides every four hours, and another man, with the very opposite symptoms of suppression of urine of four days' standing, was relieved in half an hour by the same means. A few cases such as this are clearly not sufficient to establish a law.

Dr. Kidd's attitude towards the rest of the profession is, to say the least, not friendly. On p. 14 we find: "To discourage drugging and substitute wise regulations of habits of life, is still an unpardonable sin to the orthodox practitioner." At p. 46 we find an allusion to "such exploded things as bleeding, leeching, blistering, and mercury," but on p. 74 we find that Dr. Kidd is acquainted with the action of mercury; on pp. 76 and 105 he recommends leeches to the temple and ovaries; on pp. 46 and 127 he speaks of the good effect of blisters in pericarditis. Physicians are often mentioned by name in this book; one is spoken of as overfeeding his patients in acute diseases, another is alluded to as having made more drunkards than any man living; Frazer, Crum-Brown, Brunton, and Ringer are spoken of as "afraid to teach the laws of fundamental principles which underlie the science of therapeutics." Some of our foreign brethren are strangely miscalled, thus: Czermak becomes on p. 52 Zermach, Binz, [at p. 56, is apparently spoken of as Dr. Binns, Duchenne, at p. 196, is miscalled Ducheane, and at p. 123 there is a curious reference to "*Hanover Correspondence* Blatt."

On p. 81 there occurs the following paragraph: "How often do we see the energetic practitioner, unable to find the key, trying in vain to open the casket with smart blows of a hammer. On the other side stands the mild disciple of modern expectant medicine for months watching the casket, examining the lock, but unable to find the key, till to his horror the friends bring in a more dexterous operator. The cure of the disease soon speaks for the perfect workman. . . . . It is then that the *gift of healing* [the italics are our own], which the true physician derives from the knowledge of the principles or laws of cure, comes in to assist in extricating the patient from the tendency towards death and the destruction of organs."

And again (p. 229): "Doubtless there will always be a large field for empirical medicine; genius often overleaps the boundaries of science when the latter degenerates into routine or safe orthodoxy. When strict theorists and dogmatists give an uncertain sound, it needs a dash of empiricism to cast aside conflicting theories and arrive at truth by *insight*." (The italics are ours.)

Turning from theory to practice, and glancing at the *cases* which are scattered throughout the book, we fail to see that in his treatment of disease Dr. Kidd is at all careful to observe the laws which he lays down, or that the treatment, except in a few instances, materially differs from that pursued by other practitioners. It is true that the bulk of the profession have not found dilute nitric acid or hydrastis of much use in curing fistula in ano (of which Dr. Kidd gives two examples at pp. 174-5), nor has hydrastis canadensis in other hands than his proved of service in curing cancer (p. 237). Dr. Kidd does not, however, tell us whether his successful treatment of fistula and cancer is due to an adherence to Hahnemann's or Galen's law. The book is full of sneers at those whom the author styles "orthodox practitioners."

In a recent letter Dr. Kidd states that he is no homœopath, but that he is in the habit of making use of "homœopathic remedies." It is needless to say that there are no such things as "homœopathic remedies" recognised by the profession, which is ready to use for the benefit of the sick anything which may prove of service, no matter by whom suggested or discovered. There is no mention of "homœopathic remedies" in Dr. Kidd's book, and the majority of the medicines used in the cases quoted are such as have been known to many generations of practitioners, whether orthodox or heterodox. Although Dr. Kidd enunciates what he is pleased to call the "laws of therapeutics," a careful perusal of his book clearly shows that no such laws exist, and that in the treatment of disease, wherein Dr. Kidd strives, as he says, "to be a workman approved by my Master, and a servant fit to minister among the sick, the sorrowful, and the weak," he is a law to himself, and the rules which are followed are not those of Hahnemann or Galen—but merely of Kidd.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following is the Third Report, dated March 17th, 1881, of the Committee on the necessary arrangements for the institution of additional Examinations for the Diplomas of Member and Fellow of the College, and adopted by the

Council at the meeting held on the 13th inst., as we announced last week :—

1. That it is not at present desirable that examinations in chemistry, materia medica, medical botany, and pharmacy be instituted at the College.

2. That the extended examination in medicine, as proposed in the Second Report of the Committee, and approved by the Council on Jan. 13th last, do come into force from and after Jan. 1st, 1882.

3. That the four examiners in medicine be chosen from the Fellows of the Royal College of Physicians, and be elected at the quarterly council in July.

4. That the two examiners in midwifery be chosen either from the Fellows of the College or from the Fellows of the Royal College of Physicians, and be elected at the quarterly council in July.

5. That the examiners in medicine and in midwifery be elected by the Council after nomination by a committee.

6. That the examiners in medicine and in midwifery be paid for their services by a capitation fee, and that the amount of such fee be hereafter determined by the Council.

7. That it be referred to this committee to confer with the examiners in medicine and in midwifery, and, after discussion with them, to determine the nature and extent of the examinations in medicine and midwifery respectively.

8. That it be at the same time referred to this committee, after such conference with the examiners, to advise the Council as to the amount of the capitation fee to be paid to the examiners in medicine and in midwifery respectively.

The committee also recommended to the Council the adoption of the following resolution :—

That a committee of seven members of the Council, to be called the "Nomination Committee," be appointed to nominate candidates for the several examinerships of the College, excepting candidates for the Court of Examiners and for the Court of Examiners' section of the Dental Board, subject to such rules and regulations as the Council may hereafter enact.

The committee again reserved to a future report the result of their deliberations with respect to the curricula of professional education of this College as compared with those of other institutions.

THE EXHIBITION OF THE ROYAL ACADEMY OF ARTS.

THERE is but little to interest us from a medical point of view in the present Exhibition. Amongst the sculpture are busts of the late Drs. Murchison and Leared, the former intended to be placed in St. Thomas's Hospital. There is a fair suggestion of Murchison's massive head, but the likeness, which we suppose is posthumous, is not striking. Mr. Bruce Joy exhibits the statue of Harvey, executed by him for the Harvey Tercentenary Memorial at Folkestone. Amongst the paintings we would especially note Mrs. Butler's (*née* Thompson) "Defence of Rorke's Drift." This is a very powerful work. It contains portraits of Messrs. Chard and Bromhead, and of Surgeon-Major Reynolds, who is conspicuous amongst the defenders. There is some comparatively new work of promise, and we would especially refer to "Peace and War," by John R. Reid; "St. Ann's Almshouses, Antwerp," by W. Logsdail. "A Frightful State of Things," by Gaetano Chievici, full of humour and admirably painted, will, we predict, be one of the most popular pictures in the Exhibition. The feathered inhabitants of a farmyard have penetrated into a cottage where a child has been left alone, and its consternation at the intrusion of the unexpected visitors, all of which are portrayed in a marvellously truthful and humorous way, is exceedingly funny. The Exhibition contains some good examples of Tadema, Leslie, Marks, Prinsep, Stone, Fildes, Hardy, and other favourite painters. A good deal of interest attaches to a portrait of the late Earl of Beaconsfield, by Millais, which is placed on a screen in the large room. It is a striking painting, which represents, we believe, the work of only three sittings. An extraordinary idea of the wide range of subject traversed by this remarkable painter is conveyed by turning from the figure of the lovely young girl in the picture called Cinderella to this portrait. Mr. Propert sends a mezzotint etching, which is an effective rendering, in what is perhaps the form of engraving most nearly allied to colour, of a subject which the artist has already treated with great success in etching, "A Relic of the Past." There are also some clever etchings by Dr. Evershed, whose work is always true and good.

ROYAL COLLEGE OF PHYSICIANS.

A MEETING of the Fellows of this College was held on Thursday, the 28th inst., under the presidency of Sir W. Jenner, Bart., K.C.B.

The following gentlemen were admitted to the Membership of the College :—

Bradshaw, James Dixon, M.B. Oxford.
Haynes, Frederick Harry, M.D. London.
McAlister, Donald, M.B. Cambridge.
Meeres, Edward Evan, M.D. London.
Moritz, Siegmund, M.D. Wurzburg.
Nall, Samuel, M.B. Cambridge.
Taylor, Seymour, M.B. Aberdeen.

And the following members nominated by the Council were duly elected to the Fellowship :—

James Lewis Siordet, M.B. London.
John Wale Hicks, M.D. London.
John Baptiste Potter, M.D. Edinburgh.
James Watt Black, M.D. Edinburgh.
Francis de Havilland Hall, M.D. London.
William Ewart, M.B. Cambridge.
David Bridge Lees, M.D. Cambridge.
Francis Charlewood Turner, M.D. Cambridge.
Joseph Ewart, M.D. St. Andrews.

It was decided that the first Bradshaw lecture should be delivered, in accordance with the terms of the bequest, on the 18th of August next, the President being empowered to nominate the lecturer.

MEDICAL NOTES IN PARLIAMENT.

IN the House of Commons on Monday a petition for alteration of the Lunacy Laws was presented from Limerick. A petition was presented from Lambeth in favour of a motion of which Mr. Reid has given notice for the prevention of vivisection. The general abstract for 1880 of marriages, births, and deaths in Ireland was laid upon the table. Amongst other returns presented were the Charter of the Royal University of Ireland, and a list of the members of the Senate. The Alkali Works Regulation Bill passed through Committee *pro formâ*. Earl Percy gave notice that he would move to refer the Metropolitan Open Spaces Bill to a Select Committee.

On Wednesday, a Bill for better securing the purity of beer was brought in by Colonel Barne, Mr. Storer, and Mr. Hicks, and fixed for second reading on July 20th. Mr. Hopwood gave notice of a question for May 5th, as to the operation of the Contagious Diseases Acts at Dover, and the attempted suicide of a girl named Elizabeth Burley, through fear of the police officer appointed to carry out these Acts.

Non-Vaccination Penalties.

On Thursday, Mr. P. A. Taylor asked the President of the Local Government Board whether it was true that Mr. John Abel, of Farringdon, has been prosecuted thirty-four times for refusing to have his children vaccinated; and whether he proposed to bring in any measure to limit the amount of punishment inflicted for non-compliance with the Vaccination Acts. Mr. Dodson said he believed the statement was correct, but the Local Government Board were not responsible for these repeated prosecutions. They had in more than one circular advised boards of guardians to act with caution and moderation. As to the last part of the question, looking to the scant encouragement which was given last year to his Bill, limiting the number of prosecutions, he was not prepared to bring in another Bill this year.

Small-pox Hospitals.

Mr. Pell asked the President of the Local Government Board whether the Metropolitan Boards of Guardians and Vestries had replied to the letters addressed to them by the Local Government Board on February 23rd, 1881; and if he could inform the House what extent of provision had been or was being made for hospital treatment and isolation of pauper and non-pauper cases of small-pox in the metropolis. Mr. Dodson said all the boards had replied. Fourteen

Boards of Guardians had undertaken to provide some accommodation for cases belonging to the pauper class, and fourteen district boards and vestries had given similar undertakings with regard to cases belonging to the non-pauper class. He could not say the extent which that accommodation would reach, but looking to the extent of the epidemic he feared it would be inadequate. The beds in the hospitals under the Asylums Board, numbering 968, were at present full.

Colonel Makins gave notice that to-morrow he would ask whether the authorities have cut off and annexed a portion of the public road leading from the Fulham-road to the River Thames, and are erecting upon it a temporary building for the reception of small-pox patients, and whether it is the intention to remove pauper patients to that building within the next twenty-four hours.

Correspondence.

"Audi alteram partem."

THE OLD UNIVERSITIES AND THEIR MEDICAL DEGREES.

To the Editor of THE LANCET.

SIR,—Your leading article of this day on the medical degrees of the old universities and Dr. Morgan's pamphlet respecting them render it desirable that the case of the old universities in relation to their medical degrees should be clearly stated. You rightly say that a doctorate in medicine "ought to mean something more than a common minimum qualification," and that "nobody who has the reputation of the profession at heart wishes to see graduation made too easy." By this you doubtless mean that a higher standard of education, general, scientific, and professional, should be required for a degree than for a minimum qualification, and that if it were not so the degree would be no more worth having, no more an object of ambition, than the minimum qualification. In short, it will be admitted, I suppose, that medical degrees, like most other things, bear a value somewhat proportionate to the difficulty of obtaining them; and there is little doubt that the difficulty of obtaining the degrees at the old universities, in time past, gave a prestige to medical degrees generally, and so enhanced the value of the degrees which were obtained on easier terms in other places. To maintain the character and high estimation of their degrees is therefore a duty which the old universities owe to the profession, to their graduates, and to themselves. They have done it hitherto, they do it now; and you and others will desire that they should continue to do it by the education required, as well as by the social benefits resulting from a residence in them, and from the free intermingling in them of students preparing for the various higher walks of professional, political, and other life.

Now, bearing in mind the fact that higher education necessitates longer time, and therefore proportionately more expense, and that every father who wishes to give his son the advantage of a university education and a university degree must be prepared to incur somewhat greater expense than if he were content with a minimum qualification, the questions we have to answer are these. Do the old universities offer reasonable facilities for obtaining their degrees by intelligent and industrious men—the men, that is, who ought to have them? Do they in any way discourage such men who seek the medical degrees? or do they hold out a welcoming and assisting hand to them?

At Cambridge, and I speak of this university only, the case is as follows: The student must undergo a test of his general education, which he may do at the "Previous Examination" in his first term of residence, or, which is better, before he comes into residence through the "Local Examinations." The "Higher Local Examinations," or the "Oxford and Cambridge Schools Board Examinations." The real difficulty lies in this matter of general education; and considerable experience, as teacher, examiner, and member of the Medical Council, convinces me that not very much progress will be made in improving medical education till an improvement in the early school teaching of our boys has been effected. To make them more apt and intelligent as medical students they must have better mental training in their school work. The Cambridge student must reside three years in the university; but, if he has had sufficiently good school training to enable him to satisfy the requirements at one of the examinations above-mentioned, he may devote his whole time in the university to the scientific and practical study of medicine, may obtain the B.A. degree through the Natural Sciences Tripos, and have completed his botanical, physical, chemical, anatomical, and physiological studies, as well as have made some progress in clinical study at the hospital, before the expiration of these three years. That is to say, he will have advanced himself in his medical course during the three years at Cambridge as much as he would have done during the same period at any other place, or nearly so. I say or nearly so because the examinations in these subjects here are somewhat more difficult and take a somewhat wider range, and therefore need somewhat longer time for preparation, than do the corresponding examinations for the ordinary qualification. The standard of the examinations ought not to be lower than it is, and the time spent in preparation for them ought not to be less. But the facilities for the study of these subjects are as great and as good in Cambridge as they are elsewhere; and a youth who is ready to come to Cambridge, as evinced by the fact that his general education will meet the requirements I have mentioned, will find that three well spent years in Cambridge will carry him to the point in his professional course which I have denoted. Naturally, if he has not been able to give the required proofs of general education before he comes, or in his first term, his university period will be partly occupied in work which ought to have been done at school, and a longer time will be required before he can pass the medical examinations. The proper proceeding, which I hope ere long will be the general proceeding, is to satisfy the requirements in school education through the "local" or "higher local" or the "Oxford and Cambridge Schools Board" Examinations *before* coming to Cambridge, so as to be able at once, on coming here, to commence medical study and continue it steadily through the whole period of residence.

With regard to expense, £150 a year is a fair average estimate for those who belong to a college, and who have the advantages, supposed or real, of college life, superintendence, and associations. Some spend more, and some, not a few, spend less. The non-collegiate students, who can regulate their mode of life as they please, spend, in many instances, not more, in some less, than £80 or £90 a year. At Cavendish College, which has been instituted for the purpose of enabling students to come to the university at an earlier age than they could otherwise do, and at less cost, which is under excellent management, and which already contains several medical students, the entire sum, including university, lecture, and other fees, is £80 a year. Selwyn College is growing up for a similar purpose, and, by a simple mode of living, expects to limit the whole charge for tuition, room rent, board, and attendance, to about £80 per annum.

I do not take into account the great number of scholarships, exhibitions, and prizes which are scattered among those whose school education is somewhat above the average, and which fail to produce the effect they long ere this ought to have had upon school teaching. These are open to men who intend to pursue medical study as well as to others, and a good many are given for natural science, but I am never anxious to hold them out as a bait, and I never particularly desire to divert them, to any great extent, into being rewards for medical study. The purer and less money-seeking we can keep that study the better, relying upon the genuine interest of the work, and the stimulus afforded by the hope of future success in the profession.

The University looks with no unfriendly eye upon the natural science and medical students, supplies the means of teaching them with liberality, and regards its growing medical school with interest and satisfaction. There are good laboratories, museums, dissecting-rooms, lecture-rooms, &c., a good hospital, and a staff of able earnest teachers. The fees required of the students are small in consequence of the stipends of the teachers being paid, in part, out of the university chest; and the teaching and work are not, as in former times, restricted to the terms, but are continued in the vacations.

It is not to be expected that the medical and surgical degrees, with qualification to practise, can be obtained in less than five years of medical study. Of these, as I have said, the first three may be spent in Cambridge. Some students remain longer; but I think it will be generally agreed that in the case of this and other non-metropolitan

schools it is advisable that the latter part of the period should be spent in the wider field of observation which a metropolis affords.

I think I have shown that the university is not unmindful of the wants of the profession and of medical students, and that its medical degrees are obtainable as easily, with as little expense and in as short a period of time, as ought to be the case with the medical degrees of a university, certainly of a university which holds the high rank of one of the old universities of England. I may add that the profession shows its consciousness of this by the annually increasing number of those who come into residence with the view of pursuing their medical studies, and obtaining the medical degrees. I am, Sir, yours, &c.,

Cambridge, April 9th, 1881. G. M. HUMPHRY.

To the Editor of THE LANCET.

SIR,—In order to remove any misconception of the position of the Durham University in regard to medical graduation may I be permitted to direct your attention to the steps lately taken by the Senate to remove the restrictions by which candidates for its medical degrees have until recently been hampered.

Firstly, as regards preliminary education. Instead of graduating in arts, or passing an arts examination equivalent to that for graduation, candidates are now required to pass in four arts subjects only in addition to the ordinary registration examination. Of these subjects two are compulsory — viz., Greek (Xenophon, Book ii.) and Euclid, Books iii. and iv.; the other two being selected at the option of the candidate from the following list — viz., Latin (Cicero, "De Amicitiâ"); French (Sainte Beuve's "M. Daru"); German (Freytag's "Der Staat Friedrich's der Grossen"); mechanics, with hydrostatics and pneumatics; and English History before the Norman Conquest. From this examination candidates are excepted who have graduated at, or passed the extra-professional examination of, a recognised university, or have passed the preliminary examination qualifying for the Membership of the College of Physicians of London.

Secondly, as regards professional education. Candidates must fulfil a curriculum very similar to that required by the College of Physicians of London; but of the time spent in study one winter and one summer session must be passed at the University College of Medicine, Newcastle-upon-Tyne. Two professional examinations must also be passed—one the First M.B., including anatomy, physiology, chemistry, and botany; the other the Second M.B., including medicine, surgery, midwifery, and allied subjects. Candidates may pass the First M.B. examination before they commence their attendance at Newcastle, and before they pass the extra arts examination. As the regulations stand at present, therefore, there is nothing to debar any student from graduating at Durham, even should he not determine so to do, until late in his course of study. As a matter of fact, the reforms indicated were introduced three or four years ago; the numbers of those graduating have doubled year by year. During the present session there will have been between fifty and sixty candidates, many of them already qualified as practitioners, examined at the First M.B. examination. It is probable, then, that the great field for practice here alluded to in your article of April 9th will soon be fully utilised, and that it will no longer be thought that Durham has failed in its duty to the profession.

I trust you will be able to find room for this explanation, though somewhat lengthy, since, I fear, some misconception might arise as to the present position of the University from a perusal of the article in question.

I am, Sir, yours faithfully,

LUKE ARMSTRONG, M.D.,
Registrar of the University of Durham
College of Medicine.

April 12th, 1881.

IRELAND.

(From our own Correspondent.)

A GRAND fancy dress ball was held in Cork last week in aid of the funds of the North and South Charitable Infirmaries, and proved a brilliant success. Nearly 400 attended, and great credit must be given to the Ball Committee, whose arrangements were carried out in a most satisfactory manner.

The usual annual election of examiners for the Royal College of Surgeons in Ireland will take place on Tuesday next, May 3rd, when the Council will proceed, according to the provisions of the Supplemental Charter, to elect from among the Fellows eight examiners to examine candidates for fellowship and letters testimonial; three examiners for the diploma in midwifery, and a similar number to examine students as to their proficiency in general education.

The President of the Royal College of Surgeons in Ireland, in recently conferring the Honorary Fellowship of the College on Professor Helmholtz of Berlin, stated that the distinction had been accorded to foreigners on five occasions only, and that the only ground upon which it was conferred was eminent service in the science of surgery, or in any of the branches of knowledge auxiliary thereto. Professor Helmholtz, the President added, had, by his invention of the ophthalmoscope, wonderfully increased the knowledge not alone of diseases peculiar to the eye, though there its utility was most marked, but in the recognition and differential diagnosis of many other diseases, especially those implicating the nervous system. The College most cordially and respectfully tendered to him this tribute of their admiration, and begged his acceptance of the honour he so well deserved, the only regret being that it was not more proportionate to the magnitude of his services to science, and his life-long devotion to its successful cultivation.

At a special meeting of the Guardians of Newry Union, held last Saturday, the salary of Dr. Mills, Medical Officer of Donaghmore Dispensary District, was, at the recommendation of the Dispensary Committee, increased to £120 per annum, the same amount as the other medical officers of the union receive.

At Rathmines, near Dublin, a gentleman named O'Hare died recently at the alleged age of 103 years and three months.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were duly admitted Members of the College at a meeting of the Court of Examiners on the 21st inst.:—

Bontein, Courthope Sims, Victoria-park.
Burroughs, Leopold, Lee, Kent.
Collings, Charles d'Auvergne, Guernsey.
Copner, Arthur Lewis, Bedford.
King, Ernest Edward, L.S.A., Saffron Walden.
Kinneir, F. W. Edward, L.S.A., Sherborne, Dorset.
Knaggs, Henry Valentine, L.S.A., Camden-road.
M'Lennan, Warwick Guy, Devonport.
Morgan, William Pierce, L.S.A., Dowlais.
Pedley, Frederick Newland, Camden-road.
Robinson, Wilford Vidal, Sydney-place, S.W.
Rooke, Charles, Melbourne, Australia.
Sellers, W. H. Irvin, M.B. Edin., Preston.
Trevor, Henry Octavius, L.S.A., Nether Stowey.
Van Buren, E. C. Haward, Leavesden, Herts.
Warner, Percy, Fareham, Hants.
White, Edwin Francis, L.S.A., Putney.
Yeatman, John Walter, Kilburn.

Of the 77 candidates examined on the 19th, 20th, and 21st inst., 51 passed to the satisfaction of the Court and obtained their diplomas; 5 passed in Surgery, and when qualified in Medicine will be admitted Members; the remaining 21, having failed to reach the required standard, were referred for six months' further professional study. Seven candidates who had passed in Surgery at previous examinations, having subsequently obtained a medical qualification recognised by the College, were also admitted Members.

The following gentlemen passed the Primary Examination in Anatomy and Physiology at meetings of the Board of Examiners on Monday, Tuesday, and Wednesday last:—

Ernest F. Neve, F. Ashwell, Francis W. C. Haultain, J. W. Whyte, William A. Giles, Alfred J. Neale, Herbert Fitton, Charles H. Bourne, William C. Woods, Herbert J. Gilbert, Harold F. Watkins, John B. Nash, Alfred P. Hillier, Arthur C. Keep, Thomas A. Fraser, William Hunter, Rivis Mead, Alexander Stables, A. S. Bowman, and Thomas R. Bailey, Edinburgh; Elliott W. Welchman, Edward D. Vinrace, Charles Arbiaster, and Arthur W. Scott, Birmingham; Alfred B. Taplin, Alfred B. Bake, Bernard Blower, Joseph Walker, Frederick C. Larkin, and Thomas D. C. Barry, Liverpool; Thomas J. Walker, William E. Bennett, George T. Woods, and Edward J. Byrd, Leeds; Louis Verrey, Leipzig; Walter F. Chappell, Toronto; Oliver Sunderland, Albert E. Tanstall, and John W. White, Glasgow; Frederick Maude, Aberdeen; William A. Jones, William J. T. Barker, and Harding H. Tomkins, Bristol; Alfred W. Hunton, Owens College, Manchester; George F. Gutheridge, St. Mary's Hospital and Edinburgh; Thomas P. Beddoes, Cambridge; Harold G. Hathaway, St. Bartholomew's Hospital; Arthur H. W. Clamow,

Liverpool and Edinburgh; Vernon J. Greenhough, Cambridge and Edinburgh; Ernest C. Arnold and Maurice J. Doidge, Cambridge and St. Mary's Hospital.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on April 21st:—

Griffiths, Ernest Edward, Heber Villa, Kingston-hill.
Heron, Alexander Woodburn, Lorne House, Westcroft-road, N.W.
Robinson, Alfred, West Cross, Swansea.
Roe, Robert Bradley, Melbury Osmond, Dorset.
Thomas, George Trevor Harley, Gloucester-street, Warwick-square.
Williams, John Frederick, Cosham, Hants.

The following gentleman also on the same day passed the Primary Professional Examination:—

Teevan, Henry, Middlesex Hospital.

At the Preliminary Examination in Arts held at the Hall on April 22nd and 23rd, 149 candidates presented themselves, of whom 97 were rejected, and the following 52 passed and received certificates of proficiency in General Education:—

George F. Aldous, George R. Anderson, Frederic Barker, Mark A. Barr, Edwin A. Barton, William H. Booth, W. H. C. Candler, H. H. Corbett, A. T. Croucher, Albert W. Daggs, P. J. Denysson, G. F. W. Ewens, C. E. S. Fleming, William Hall, C. R. Harper, Edward J. Hawkes, A. W. Hayles, Edward Howard, D. L. Hubbard, James A. Hutton, L. P. Jackson, Alfred F. J. W. Jones, James Jones, Lión V. O. de Lassasie, K. W. J. Mackenzie, James F. Magill, S. Mellor, Colin D. Morris, Theodore Murphy, William Murphy, C. E. Oldacres, W. J. Oliver, Arthur J. Owen, N. A. Partridge, H. H. St. J. Pickstock, J. B. B. Protheroe, S. W. Read, Joseph A. Rogers, W. R. Scoging, Edmund Symons Smith, Henry Sandford Smith, H. A. Spencer, P. C. H. Strickland, Horace L. Swete, C. Terry, Lucy Alice Vick, L. Whitehead, Alexander Whyte, Lionel H. Williams, T. Gill Williams, Arthur E. Wilson, Richard Trood.

UNIVERSITY OF ST. ANDREWS.—The following gentlemen, having passed the required examinations, had the degree of Doctor of Medicine conferred upon them on the 21st inst.:—

Call, Thomas James, M.R.C.P. Edin., L.F.P.S. Glasg., L.S.A. Lond., Ilkley, Yorks.
Chaple, Charles, L.S.A. Lond., London.
Finucane, Thomas Dawson, L.F.P.S. Glasg., L.A.H. Dub., L.M., Black Rock, Dublin.
Lycett, John Allan, M.R.C.S. Eng., L.S.A. Lond., L.R.C.P. Lond., L.M., Wolverhampton.
Mackay, John Sutherland, M.A. Edin., M.B. & C.M. St. And., Huelva, Spain. (In absentiâ.)
Murray, William Fettes, F. & L.R.C.S. Edin., Forfar.
Oxley, Martin Gay Black, M.R.C.S. Eng., L. & M.K.Q.C.P. Irel., Liverpool.
Spooner, Edward Monro, M.R.C.S. Eng., L.S.A. Lond., Blandford.
Tibbits, Herbert, M. & F.R.C.P. Edin., L.R.C.P. Lond., M.R.C.S. Eng., London.
Tily, James, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A. Lond., L.M., Richmond.
Trend, Theophilus W., M.R.C.P. Edin., M.R.C.S. Eng., L.K.Q.C.P.I., Southampton.

At the same time the following gentlemen had the degree of Bachelor of Medicine and Master in Surgery conferred upon them after examination:—

Hanson, John Edward, L.R.C.S. Edin., London.
Lowe, George, L.R.C.P. Edin., Darlington.
M'Munn, John Alexander, L.R.C.S. Edin., Belfast.

The following passed the 1st M.B. Examination:—

Bowie, Alexander, Edinburgh.
Redpath, Robert Knox Wighton, Edinburgh.

UNIVERSITY OF EDINBURGH.—The following degrees have been recently conferred:—

M.B. & M.C.—Robert Scott Skirving, Scotland.
M.B.—Robert Wilkie Smith, Scotland.
B.S. IN PUBLIC HEALTH.—Robert C. Smith, M.D., Ardwick; James Anderson, M.B., Ulverston.

The following candidates have passed the Second Professional examination for Medical Degrees:—

F. Ashwell, T. R. Bailey, G. J. H. Bell, J. S. Bolton, J. R. H. Bond, C. H. Bourne, John Bowie, A. S. Bowman, William Brydon, W. A. Buchan, George Burn Murdoch, P. B. Bury, W. H. Calvert, S. G. Campbell (with distinction), A. K. Christie (with distinction), Philip Cockburn, P. B. Cousland, John Craig, William Davidson, D. R. Davies, A. S. Delépine (with distinction), C. V. Delépine (with distinction), R. G. Dempster, William Dutton, A. B. Dymock, H. J. Fletcher, J. M. Ferguson, B. E. Fordyce, T. A. Fraser (with distinction), G. W. Gallethy, Lawson Gifford, F. W. Grierson, C. B. Gunn, G. F. Gutheridge, M. W. Gutteridge, W. W. Hall, H. C. Hallows, F. H. Hawkins, T. K. Hill, A. P. Hillier, Richard Humphreys, William Hunter (with distinction), Granville Jameson, A. C. Keep, Arthur King, P. B. Le Franc, R. T. Lorraine, W. B. M'Donald (with distinction), A. F. Mackenzie, W. G. Macpherson, Robert Mackinlay (with distinction), E. O. Macniven, F. P. Marais, Rivis Mead, A. J. K. M. Mill, J. B. Nash, A. M. Neothling, G. R. Nelson, E. F. Neve, Diarmid Noel-Paton (with distinction), E. S. Palmer, R. W. Philip, G. C. Purvis (with distinction), Herbt. Rendall, G. J. Renwick, R. H. Rosanwzig, T. L. Shearer, G. F. Shiels, David Smart (with distinction), G. A. van Someren, A. E. C. Spence, William Spence, Alexander Stables, Joseph Stapleton, J. N. Stark, Charles Stein, R. T. Sutherland, J. R. Sazor, William Taylor, A. H. Thomas, W. F. Thompson, P. E. Todd, David Treharne, J. A. Turner, W. O. Walker, H. F. Watkins (with distinction), John Whitaker, J. M. Whyte, Ernest Wilcox, H. M. Wilson, Thomas Wood, William Younan.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest.*

CLARK, H. E., L.R.C.S.Ed., L.F.P.S.G., M.R.C.S.E., has been appointed Surgeon to the Glasgow Royal Infirmary, vice Dr. H. C. Cameron, resigned.

DANIELL, R. T., M.B., F.R.C.S.I., has been appointed Surgeon to the T Division of Police, vice A. Godrich, resigned.

EVANS, E., M.B., C.M., has been appointed Public Analyst for the County of Anglesey, vice Owen, resigned.

EWBANK, H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Senior House-Surgeon to the General Hospital, Cheltenham, vice Carden, resigned.

GROGONO, W. A., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Divisional Surgeon to the West Ham Subdivision of K Division of the Metropolitan Police, vice Levick, deceased.

HILL, W., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Obstetric Surgeon to the St. John's House Maternity Home, Chelsea.

HODSDON, J. W. B., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident Physician in the Royal Infirmary for Sick Children, Edinburgh, vice Fligg, resigned.

HORSFALL, J. S., L.K.Q.C.P.I., M.R.C.S.E., has been reappointed Medical Officer and Public Vaccinator for the Sowerby Bridge District of the Halifax Union.

JACOB, E. H., M.A., M.D., has been appointed Demonstrator of Physiology to the Leeds School of Medicine.

LLOYD, J. J., L.R.C.P., L.M., L.S.A.L., has been appointed House-Surgeon to the Denbighshire General Infirmary, vice W. F. Jones, M.R.C.S., L.R.C.P., L.M., L.A.H., resigned.

MAHOMED, G., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to the Bournemouth Dispensary.

MILLER, H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Witham District of the Braintree Union.

RYGATE, B. R., M.B., M.R.C.S.E., L.S.A.L., has been appointed District (St. George's-in-the-East) Surgeon to the Royal Maternity Charity.

SHERWOOD, A. P., L.R.C.P.I., M.R.C.S.E., has been appointed Medical Officer for the Eastbourne and Seaside District of the Eastbourne Union.

SUTTON, Mr. F., has been reappointed Public Analyst for the Borough of Thetford.

WHIPP, R., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Burton District of the Kendal Union.

YOUNG, W. MUSSEN, M.D., has been appointed Assistant Medical Officer to the Suffolk County Asylum, vice Davie Harris, resigned.

Births, Marriages, and Deaths.

BIRTHS.

BAINES.—On the 19th inst., at Birkdale, Southport, Lancashire, the wife of A. H. Baines, L.R.C.P.I., M.R.C.S.E., of a daughter.

BROOKES.—On the 11th inst., at Kennington-road, the wife of Frederick William Brookes, M.R.C.S.E., of a daughter.

BURNEY.—On the 21st inst., at Greenwich Infirmary, the wife of Walter Charles Skardon Burney, M.D., of a son.

MARRIAGES.

ADDY—KNOWLES.—On the 23rd inst., at St. Augustine's, Pendlebury, by the Rev. Dr. Dowse, assisted by the Rev. Dr. Browne, Boughton Addy, M.D. Lond., M.R.C.S.E., of Eccles Old Road, Pendleton, to Jane Agnes, eldest daughter of Andrew Knowles, of High Bank, Pendlebury, Manchester.

HOWSE—MARSHALL.—On the 27th inst., at Effra-road Chapel, Brixton, by the Rev. E. S. Howse, B.A., of Altrincham, Henry Greenway Howse, M.S., of 10, St. Thomas's-street, S.E., to Alice Elinor, youngest daughter of the Rev. T. S. Marshall, of 6, Church-road, Brixton-rise, S.W.

PEARCE—GOOLD.—On the 20th inst., at the Convent Church, Upper Norwood, Henry Pearce, of Hurstpierpoint, to Margaret Matilda (Queenie), daughter of the late Frances Goold, Surgeon in H.M. Bombay Army, and stepdaughter of the late J. R. Roe, M.D., of Bridgenorth. No cards.

ROBINSON—FAWCETT.—On the 21st inst., at St. Nicholas Church, Newcastle-on-Tyne, by the Rev. Canon Martin, M.A., assisted by the Rev. J. A. Sharrock, M.A., Arthur H. Robinson, M.D., of Hull, to Isabel Kate, eldest daughter of J. Fawcett, Esq., of Newcastle.

WALSH—CARTER.—On the 26th inst., at the Roman Catholic Church, Blackley, near Manchester, J. G. Walsh, M.D., of Ormskirk, to Annie, eldest daughter of the late William Carter, Esq., of Crumpsall, Manchester.

WANOSTROCHT—BROWN.—On the 26th inst., at 19, Lutton-place, Edinburgh, by the Rev. J. McLaren (uncle of the bride), Vincent Wanostrocht, M.B., of Escrick, York, to Margaret Lawrie, eldest daughter of Alexander Brown, Esq.

DEATHS.

LYSTER.—On the 20th inst., at his residence, 72, Devonshire-road, Prince's-park, Liverpool, C. E. Lyster, M.D., F.R.C.S.I., aged 46.

STOKES.—On the 15th inst., at Mullingar, Gabriel Stokes, M.D., aged 74.

WILLIS.—On the 17th inst., at Waverley-terrace, Bray, Thomas Willis, sen., L.A.H.D., aged 91.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, April 28th, 1881.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radiation in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Apl. 22	29·77	N.W.	43	38	67	52	34	..	Bright
,, 23	30·14	N.E.	43	39	83	57	37	..	Cloudy
,, 24	30·02	N.W.	50	49	91	59	40	·06	Cloudy
,, 25	29·91	W.	55	52	76	61	45	..	Overcast
,, 26	29·98	W.	47	44	91	57	41	..	Overcast
,, 27	30·18	N.W.	48	44	72	58	40	·01	Overcast
,, 28	30·36	E.	50	46	77	59	42	..	Fine

Medical Diary for the ensuing Week.

Monday, May 2.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS. — Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.: on Tuesday, 9 A.M.
ROYAL INSTITUTION.—2 P.M. Annual Meeting.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Conversazione and Annual Oration, by Arthur E. Durham.

Tuesday, May 3.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Dewar, "On Non-Metallic Elements."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following specimens will be shown:—Specimen illustrating Molluscum Contagiosum; Two Cases of Liver-abscess following Dysentery; Dysentery with Abscess of Liver; External Hydrocephalus; Specimens of Calculi, &c.; Fractured Cervical Spine; Probable Fracture of Spine; Extra-renal Sarcomatous Growth; Two Cases of Intestinal Obstruction; Sarcoma of Kidney; Heart with Calcareous Plates; Heart with Stenosis of Tricuspid Valve; Atresia of Aortic Aperture in an Infant (card); and other Card Specimens.

Wednesday, May 4.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN. — Operations, 2½ P.M.
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be exhibited. The President, "On a Case of Phlegmasia Dolens with Lymphatic Varix."—Dr. Galabin, "On a Case of Extra-uterine associated with Intra-uterine Fœtation, in which Abdominal Section was performed."—Mr. George Rigden, "On Statistics of Midwifery in Private Practice."
EPIDEMIOLOGICAL SOCIETY.—8 P.M. Mr. John Spear, "On the Woolsorters' Disease, or Anthrax Fever."

Thursday, May 5.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 2 P.M., and on Friday at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.
ROYAL INSTITUTION.—3 P.M. Professor Tyndall, "On Magnetism."
HARVEIAN SOCIETY.—8½ P.M. Dr. John Williams, "On a Case of Ovariotomy during Labour."—Mr. James R. Lane, "On Experiences of Antiseptic Surgery."

Friday, May 6.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M
ROYAL INSTITUTION.—3 P.M. Hon. Geo. Brodrick, "On the Land Systems of England and of Ireland."

Saturday, May 7.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Professor H. Morley, "On Scotland's Part in English Literature."

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Local papers containing reports or news-paragraphs should be marked.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

EXAMINATIONS AT THE ROYAL COLLEGE OF SURGEONS.

AT the primary examination in Anatomy and Physiology, on the 22nd instant, there were 185 candidates, to whom the following questions were submitted:—Anatomy, from 1 to 3 o'clock, when they were required to answer four and not more out of the six questions on both subjects.

1. Describe the upper third of the femur.
2. Describe the tempore-maxillary articulation, and the movements of which the lower jaw is capable. Mention the muscles by which these movements are respectively effected.
3. Give the dissection necessary to expose fully the adductor pollicis in the palm of the hand.
4. What structures are in relation with the several portions of the duodenum?
5. Describe the course and relations of each phrenic nerve.
6. Describe the azygos veins. Give the course, relations, and tributaries of each.

The following were the questions on Physiology, from 4 to 6 o'clock:—

1. State the changes which take place in the various food-stuffs while in the mouth and stomach.
2. Describe the minute structure of the iris. What are its functions? Describe its innervation, and give the central connexions of the nerves supplying it.
3. Describe the structure of the smallest arteries and the capillaries, and the movement of the blood through them.
4. How is the act of vomiting accomplished? By what nerve-mechanisms is it regulated?
5. State and explain the phenomena observed after unilateral section of the spinal cord—e.g., in the dorsal region.
6. What are the changes which take place in the blood while passing through the capillaries of the lungs and those of muscle?

J. B.—We think the physician was in fault in expressing an opinion he knew to be contrary to that of the ordinary adviser without first seeking a consultation.

Mr. J. Poole.—We cannot recommend any work. In any case a medical practitioner should be consulted.

CASE OF SPINA BIFIDA.

To the Editor of THE LANCET.

SIR,—On the 17th December, 1880, I delivered Mrs. Y—— with Barnes's long forceps of a female child. The infant has a spina bifida of the lower dorsal and lumbar vertebræ. The tumour measures four inches by three, and is as large as a moderate-sized orange, and covered with skin partly and thin transparent membrane. The child is also afflicted with hydrocephalus and talipes varus of the right foot, and talipes valgus of the left foot. A shield of gutta-percha has been fitted to the spina bifida to prevent injury.

I am, Sir, yours faithfully,
Braintree, Essex, April 12th, 1881. C. E. ABBOTT, M.R.C.S.

"TALIPES AFTER ACUTE RHEUMATISM.—WHAT TO DO?"

To the Editor of THE LANCET.

SIR,—In reply to "E. G. W.," I would advise that tenotomy be performed, and the limb afterwards put into a proper apparatus. It might be necessary to have recourse again to division of the tendo Achillis. Operation is justifiable, as likely to improve the limb.

I am, Sir, yours, &c.,
SPENCER T. SMYTH, M.D., &c.,
Consulting Surgeon to the Infirmary for Sick Children,
April 25th, 1881. Sydenham-park, S.E.

DEATH FROM CARBOLIC ACID POISONING AFTER INJECTION OF SOLUTION INTO ABSCESS.

DR. E. H. BRADFORD relates, in the *Boston Medical and Surgical Journal*, a case in which death followed the hyperdistension of an abscess with a solution of carbolic acid (1 to 40). The patient was a boy aged five years afflicted with hip disease. A cold abscess had formed on the thigh, pointing on the outer side, which was incised under anæsthesia, and injected with the solution, which was allowed, and by squeezing assisted, to flow out. A drainage-tube was inserted and layers of antiseptic gauze were applied. The next night the patient was seized with vomiting, which persisted. A fresh gauze dressing was employed, but the abscess was not syringed out. Death took place two days later, with symptoms of collapse. At the autopsy diffused hæmorrhage was found in the left lung. The heart contained dark clotted blood. The myocardium was paler than normal, its muscular fibres finely granular. The kidneys were enlarged, firm, and pale; on section the cortex was found increased in volume and of a yellowish-grey colour. The microscope showed general fatty degeneration of the convoluted and straight tubes. The liver was enlarged, firm, and anæmic.

A FRESH START.

MR. COMMISSIONER KERR last week, on taking the chair to which he had been elected by the new Board of Guardians of St. Pancras, gave expression to his views on some important points in parochial administration. The learned gentleman urged an improved system of out-door relief, and offered a suggestion which, in the interests of the class on the borderland of pauperism, we should be glad to see carried out generally by guardians of the poor—namely, that in suitable cases loans might be advanced in place of the distribution of doles, which were soon exhausted, leaving the recipients as badly off as before. He was likewise in favour of the boarding-out of pauper children—a plan the benefit of which has been demonstrated beyond all cavil. Finally he spoke of the need of more careful scrutiny into the circumstances of the inmates of the workhouse and their fitness as objects of indoor relief. The doings of the St. Pancras Board in the past have oftimes been open to criticism; let us hope that under the able leadership of its present chairman its future career may be characterised by fewer mistakes.

Dr. John Cuesfy.—The communication has not been received.

CASES OF SUDDEN OBSTRUCTION OF THE ŒSOPHAGUS.

To the Editor of THE LANCET.

SIR,—I find that I omitted to put in the date of my first seeing Mrs. ——, Case 1, in my paper of the 16th inst. It was on February the 28th, 1880, and therefore the piece of meat, which Mr. Butlin suggests might have been the cause of the obstruction, would have blocked up the œsophagus for nearly three weeks, a long time surely for meat or even gristle.—Apologising for my omission, I am, Sir, yours faithfully,

Devonshire-street, Portland-place, W., W. PUGIN THORNTON.
April 25th, 1881.

CASE OF OBSTRUCTION IN THE BOWELS.

To the Editor of THE LANCET.

SIR,—I beg to forward particulars of the following case, if you think it of sufficient interest for insertion:—

On Monday evening, the 7th of March, a female child, two years old, was brought to me with the following history. On the Sunday previous she had passed a natural motion in the morning and appeared well till the evening, when she seemed restless and in pain, and was screaming at intervals all the night and the next day. She had been frequently sick and was constantly straining and passing a little blood from the rectum. There was a perceptible tender swelling in the left flank, dull on percussion. I ordered hot opiate applications to the abdomen and small doses of opium and belladonna every hour. The next morning there was no alteration, and in the evening she seemed worse, so I passed my finger into the rectum, which I found much dilated and containing a soft substance, around which I could sweep the finger, and having at the lower end an opening like a small os uteri (evidently an invagination of the lower colon into the rectum). I tried reduction by injecting water, placing the child on its face and raising the nates, but the water was forcibly returned, and on removing the tube a portion of the colon protruded through the anus. I returned this, and with the finger pushed up the colon as high as I could reach (about the upper edge of the iliac bone), but on removing my finger the colon again descended; so, after again pushing it up, I introduced a large gum-elastic catheter, and, guiding it along the finger in the rectum, passed it some inches above into the colon (as much as appeared to be necessary), and was gratified to find that the reduction was accomplished.

The little patient had no more sickness and slept well all night. She continued her medicine at longer intervals until the following Friday morning, when she passed (in her sleep) a large-sized motion, since which time she has gone on comfortably with one or two motions daily, and is playing about as usual.—I am, Sir, yours &c.,

Kingston-on-Thames, March 23rd, 1881. E. M. SHIRTLIFF.

Nitrous Oxide.—Nitrous oxide, prepared by heating ammonium nitrate, must be purified from nitric oxide by passing through sulphate of iron, and from chlorine by passing through potash, before it can be inhaled with safety.

A Physician (Kensington).—We believe satisfactory arrangements for horse-foraging can be made with Messrs. Hall, of Park-lane, W.

FEMALE INEBRIATES.

To the Editor of THE LANCET.

SIR,—No cases are so difficult to deal with as those of married women who are habitual tipplers; homes are made wretched, husbands get neither peace at their meals nor rest in their beds, are unfitted for their daily work, and can find no "modus vivendi" with such partners—no remedy and no escape! These women are sometimes maniacal and dangerous, but lunatic asylums will not receive them; addicted to pilfering and pawning their husbands' property, but not admissible into prisons; on the verge of brain-softening, paralysis, or liver disease, but ineligible for hospitals. There is an indefiniteness about these cases; they are on the borderland, but not within the territory, of the insane, the criminal, and the diseased. Time and the slow but sure operation of natural laws bring them, sooner or later, within it, and then we can deal with them; but it is quite wonderful how long they will go on before some definite form of disease or crime solves the problem, "What is to be done with them?" and they sometimes wear out and destroy the lives of their husbands and those about them before they themselves become inmates of hospitals, prisons, or asylums. And yet I have known many such women who were, otherwise, good and amiable, who only required separation from certain people and surroundings, removal to a distance, proper associates, a salutary environment, and judicious supervision to make them ornaments and comforts in their homes, and blessings, instead of curses, to their husbands. But how is all this to be accomplished? True, there are "homes" for such women, but they are much too expensive for most men, and the wife must consent to go into them, and this consent is not easily obtained. Then, again, a man's duties may fix him in one spot, and he may thus be unable to change his wife's associates and surroundings, and he may be too poor to give her the benefit of travelling, proper attendants, and so forth; so that in a vast proportion of cases he has no remedy for and no escape from a life that is scarcely endurable. He must bear his heavy trial with patience, and wait for those catastrophes which, sooner or later, result from a persistent violation of moral and physiological laws. I have written this letter in the hope that some of your readers may be able to supply valuable hints and suggestions as to the management of a most painful and difficult class of cases.—I am, Sir, yours truly,

DANIEL HOOPER, M.B. & B.A. Lond.

Trinity-square, S.E., April 27th, 1881.

COLOUR-BLINDNESS.

To the Editor of THE LANCET.

SIR,—At the recent meeting of the Ophthalmological Society, Mr. Carter inquired as to the possibility of colour-blindness being overlooked unless the eyes were separately examined. It may be interesting to mention, therefore, that in an article on colour-blindness in Denmark, by Fontenay (published in the current number of Knapp's *Archives of Ophthalmology*), the author states that each eye was tested in 217 cases, and the two were always found alike. On the other hand, a case, coming under my observation at the Sheffield General Infirmary last summer, appears to indicate the importance in faulty colour-perception resulting from head injury, at all events, of testing the two eyes separately. The patient was a young man aged twenty-one, and about twenty months previously had fallen from one of the large Liverpool docks and sustained a series of injuries, consisting of fracture of the frontal bone, of the inferior maxilla, of the right femur, and of the left wrist. He was stated also to have suffered from concussion of the brain, and quite recently had been the subject of "fits." At the time of his coming to me there was a large depression on the left side of the forehead. He complained of his sight having become worse since the accident, but I regret I find no note respecting its exact condition. Ophthalmoscopically there appeared nothing abnormal. He was hypermetropic, and later I find it stated that R.E. + 1-8th = 20-50, and L.E. + 1-8th = 20-70. But the points I wish to refer to especially have regard to his colour defects. When about to test him, he told me he was not so accurate with colours as he used to be before his accident. But he arranged the wools in Holmgren's test correctly, though he was slow in doing so, and hesitated somewhat. On testing each eye separately, however, he behaved differently. With the right eye he picked out the wools, and arranged them as a red blind would do, whilst with the left he placed the wools, though not so distinctly, as a green blind; he thus seemed red blind with the right, and incompletely green blind with the left. Again, placing the wools before him, with both eyes open, he sorted them once more correctly. It would thus appear that while using both eyes the faulty sense in either eye was counterbalanced by that which happened to be good in the other. The repetition of the tests led to similar results.

I may add that Fontenay, in the paper before referred to, mentions that Niemetscheck has reported four congenital monocular cases, but states that he himself regards them as very doubtful.

I am, Sir, yours faithfully,

Sheffield, April 26th, 1881. SIMEON SNELL.

APOMORPHIA.

AT a recent meeting of the Boston (U.S.A.) Society for Medical Improvement, Dr. Fifield reported a case in which a man having swallowed a pint and a half of kerosene, one-third of a grain of apomorphia, given as an emetic, afforded complete relief in a very few minutes.

Mr. Thos. Malpass.—We cannot depart from our rule.

T. F. J.—Certainly.

Student, 81.—Huxley's "Vertebrata and Invertebrata," Gegenbaur's "Comparative Anatomy and Zoology," Nicholson's "Zoology."

A. M. K.—The papers are not published.

"CHRYSOPHANIC ACID IN PSORIASIS."

To the Editor of THE LANCET.

SIR,—I am gratified by the repeated testimonies in your columns as to the excellent effect of chrysophanic acid in psoriasis. When I first introduced the drug as a remedy for psoriasis, now several years ago, professional opinion was by no means so unanimous in its favour as it has since become.

Dr. Lee's arguments in favour of the "constitutional" action of chrysophanic acid are excellent, but as I think by no means conclusive. That psoriasis will disappear from parts to which there has been no "direct" application of chrysophanic acid is true, provided always that these parts are fairly near to where the acid has been applied. But this results from the friction of the underclothing, which is capable of causing ointment to travel a considerable distance beyond where it has been applied, and partly perhaps from a certain degree of volatility of the acid, although it is not very volatile. Wherever the acid thus travels it will, if present in sufficient force, always produce the characteristic lurid-hued "chrysophanic erythema." Now, wherever this erythema is met with it is an evidence of the direct—that is to say, the local—action of chrysophanic acid on the skin, but certainly not of any constitutional effect. Chrysophanic acid administered internally to healthy persons does not produce an erythema of the skin.

As to the "congestion of the conjunctiva, no matter where the ointment may have been applied," that is certainly not a constitutional effect. It results from the accidental conveyance of a small quantity of the ointment to the patient's eyes by means of his fingers. I have used chrysophanic acid ointment very largely for several years, but ever since I directed my patients to cleanse very carefully their fingers after applying the ointment to their eruption, I have never had a case where the least "congestion of the conjunctiva" has occurred. The patient first wipes his hands with a rag moistened in benzine, which dissolves off not only the lard, but the chrysophanic acid itself, and after that he washes his hands in soap and water. I began to adopt this precaution shortly after I first discovered the effect of chrysophanic acid in psoriasis.

However, would it not be better that those who think that chrysophanic acid administered internally will cure psoriasis should try the experiment and see whether it will turn out as they suppose? Before doing so, however, Dr. Ashburton Thompson's paper, in the *British Medical Journal* of May 19th, 1877, should be consulted. He relates his experience of 319 observations, and finds that a scruple is a moderate dose for an adult, and that the drug acts as an emetic purge.

The question as to whether chrysophanic acid becomes more altered in the intestines than on the skin may probably be answered in the affirmative. In the form of ointment (if the ointment be made according to my original directions) the acid is in a state of solution in fat; but in the intestine, while a certain portion of the dose of acid would undergo solution in the fatty portions of the patient's food, another small portion would become converted into the soluble chrysophanate of soda.

I am, Sir, obediently yours,

London, April 16th, 1881. BALMANNO SQUIRE.

Dr. J. C. Reid (Newbiggin-by-Sea).—We are unable to answer the question put to us, and would suggest that our correspondent write to the author of the paper which appeared in THE LANCET of the 23rd April or to the health officer for Aberdeen.

ERRATUM.—In our notice of "Beri-beri" in THE LANCET of the 16th inst., the name of the principal civil medical officer of the Straits Settlements was inadvertently spelt Russell instead of *Rossell*.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Eccles, Glengarrif; Mr. Green, Portsmouth; Mr. Jeffreys, Chesterfield; Mr. M'Donogh, Clapham; Mr. Highet, Troon; Mr. G. P. Field, London; Mr. Watson, Bolton; Mr. Gilbert, London; Mr. W. J. C. Miller, London; Dr. Reid, Newbiggin; Mr. W. A. Frost, London; Mr. Startin, London; Mr. Collins, London; Dr. Macleod, Garlands; Mr. T. P. Wright, Bingham; Mr. R. H. Cowan, London; Dr. Sumpter, Cley-next-Sea; Mr. W. K. Ritz, Bradford; Dr. Macphail, Liverpool; Dr. Smith, Ardwick; Mr. Galbraith, Edinburgh; Mr. B. Roth, Brighton; Mr. Vasse, London; Mr. Gyles, London; Dr. B. Lee, Philadelphia; Dr. Bateman, London; Mr. Thomas; Dr. Prickett, London; Dr. Lowe, Lincoln; Dr. Wallace, Greenock; Dr. Tyndale Watson, Tottenham; Mr. Shirley Deakin; Dr. Adam, Dumfries; Mr. Griffin, London; Mr. Rivington, London; Mr. Shirley Murphy, London; Dr. Latham, Cambridge; Dr. Hooper, London; Mr. Snell, Sheffield; Mr. Dolan, Halifax; Mr. C. H. Green; Dr. Stanley Eale, Manchester; Mr. Hitchin, Weston-super-Mare; Mr. Laffan, Cashel; Dr. Hughes, Brighton; Dr. Thursfield, Bridgnorth; Mr. A. T. Brett, Watford; Mr. Bischeti, London; Dr. Bantock, London; Mr. Poole, Sellafield; Mr. Roberts, Buckhurst-hill; Mr. Johnson, St. Leonards; Dr. Corfield, London; Mr. Saunders; Dr. Robinson, Newcastle; Mr. Horsfall, Leeds; Mr. Holden, Liverpool; Mr. Symons, Dumfries; Messrs. Wyley and Co., Coventry; Mr. Robertson, Liverpool; Messrs. Kidd, North Shields; Mr. Johnson, London; Mr. Day, London; Surgeon-Major Orton, Glencorse; Student, 81; J. B.; Inquirens; M. S.; T. F. J.; The President of the Metropolitan Branch of the B.M.A.; A. M. K.; A. C.; Medicus; Dr. G.; G. S. A.; W. M.; A Colonial Surgeon; A Public Vaccinator; &c., &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Ellis, Shipley; Mr. Maw, Bradford; Mr. Healy, Kennington; Dr. Buist, Edinburgh; Rev. A. J. D'Orsey, London; Messrs. Douglas and Mason, Edinburgh; Dr. Monteith, Work; Dr. Jefferson, Ripon; Mr. Coleman, Cardiff; Mr. Daly, Nottingham; Mr. Ratherglen, Kensington; Mr. Fulton, Toronto; Mr. A. Canton, London; Dr. Ritchie, Otley; Mr. Wheeler, Manchester; Mr. Kidd, North Shields; Dr. Pirrie, Aberdeen; Messrs. Mottershead and Co., Manchester; Mr. McLannen, Devonport; Messrs. Olive and Boyd; Dr. Holden, Preston; Messrs. Keith and Co., Edinburgh; Mr. Salterthwaite, Lancaster; Mr. Price, London; Mr. Corbett, London; Dr. McLintock, Church Stretton; Mr. Smith, Manchester; Mr. Tomlinson, Melton; Messrs. Smith and Son, Dublin; Mr. Field, London; Messrs. Wright and Co., Birmingham; Mr. Coombs, Stamford-hill; Mr. Bridgeman, Barnstaple; Mr. Huggins, Great Malden; W. L., Dublin; L. G. S., Manchester; L. M.; Medicus, Stockton-on-Tees; M.R.C.S., Norwich; C. L., Kensington; F. H., Windermere; Medicus, Chester-le-Street; Sigma; Persto; A.B.C., London; W. F. E.; T., Cardiff; Surgeon, Sheffield; Sanitas; R., Liverpool; Beta; Registrar, Bath; Medicus, S.M.; G. L. A., Hammersmith; A. H., London; Bertie; Medicus, Minchinhampton; R. M. J.; A. A., London; Beta, Edinburgh; Medicus, Birchington-on-Sea; F. C., Evesham; A. B., New North-road; W. R. T., Dublin; J. B. S., Tibshelf; &c., &c.

Whitby Times, Newcastle Daily Chronicle, Scotsman, Civil and Military Gazette, Kronika Lekarska, Weston Mercury, Food and Health, The American, &c., have been received.

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